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# Medical Times

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## Social Hygiene in its Relation to the Child

THE HONORABLE MR. JUSTICE RIDDELL, LL.D.

President, Canadian Social Hygiene Council.

Toronto, Ontario

I consider it an honor as it is a pleasure to be permitted to join with you this evening, chiefly because you are helping those who cannot help themselves and are doing your part to build up our country with a worthy citizenry.

The ancient Romans and more so the ancient Greeks recognized the crucial importance of a strong healthy people—the Roman *mens sana in corpore sano* was a proverb; the Greek Gymnasia were the regular meeting places. For reasons perhaps obscure and into which we need not enquire, our Christian civilization ceased to consider or rather failed to keep in mind the tremendous importance of the body.

But civilization went forward as so often on the powder cart: the Great War awakened Canada as it awakened other countries.

The greatest assets of a country is not its timber, valuable as that is—and it is to be hoped that the timber resources of Ontario will not diminish but increase in amount and value; not flocks and herds on a thousand hills or yellow grain on a million acres—it is its MEN.

Even in war, God is not always on the side of the heaviest battalions—the materiel is and must continue to be of great importance, but the personnel and morale are always transcendent.

The Great War startled all combatant countries—shocked them into consciousness of an evil that was eating into their very vitals. It has been semi-officially said that the effective fighting value of the British Army was reduced by fifteen per cent by what are euphemistically called social diseases—the most anti-social of all diseases. Canada lost the services of thousands of her sons and spent millions of dollars by reason of these diseases. In consequence of the importance of the subject, the Government of Canada called together shortly after the war a number of representative men who were acquainted with it and caused the formation of an organization pri-

vate in its composition and management but with official sanction and support. That organization of which I had the honor to be elected president, boldly took the name of "Canadian National Council for Combating Venereal Diseases"—we wished to challenge attention to venereal diseases by our very name. The subject is not a pleasant one—one would rather contemplate and talk about the garden than the cesspool—but the cesspool must be attended to or little pleasure will be left in the garden.

Availing ourselves of the investigations in the British Isles and elsewhere—and pursuing the inquiry in our own land, we can confidently assert that many more than half a million Canadians are infected with one or other of these diseases—hundreds and thousands, without knowing it.

Illustrative statements are always to be desired—let me make some, the accuracy of which cannot be doubted.

There are two major venereal diseases—gonorrhea and syphilis: the former a few years ago was looked on as not much worse than a bad cold; the latter is still a jest in many circles.

*Gonorrhea* is the most prevalent of all diseases, except measles:

It affects all ages and all classes of society:

is the cause of 80 per cent of blindness of the new born;

is the cause of more than 10 per cent of all blindness:

is the cause of many surgical operations on the female generative organs (estimated at 50 per cent.);

causes sterility in both men and women;

is the cause of many chronic disease of the joints, bladder and generative organs;

greatly decreases efficiency;

is the underlying cause of untold suffering and misery;

affects practically all prostitutes, public and clandestine.

\* An address before the Association of Children's Aid Societies of the Province of Ontario, at Toronto, May 12, 1925.

*Syphilis* is estimated to affect over 8 per cent of the total population:

It affects all ages and all classes of society throughout the world:  
is responsible for the birth of diseased children—80 per cent of these children die;  
is the cause of 10 to 35 per cent of all insanity;  
is one of the causes of mentally defective children;  
is the cause of locomotor ataxia;  
is the cause of paresis or softening of the brain.  
is the chief cause of apoplectic and paralytic strokes before middle life;  
is the cause of nearly half the abortions and miscarriages;  
is the cause of a large proportion of diseases of the heart, blood vessels and other vital organs;  
decreases the length of life about one-third;  
greatly decreases efficiency;  
is the underlying cause of untold suffering and misery;  
affects most prostitutes, public and clandestine.

Syphilis and gonorrhea are the greatest known sterilizers.

The celebrated Sir William Osler, who at one time under-estimated the gravity of the syphilis peril, later in life and as a final consideration, estimated that including still births, deaths of infants under one month and other syphilitic resultants, the actual deaths from syphilis were above 60,000 per annum, a number which moves syphilis from the tenth place in the Registrar General's Report to the place where it belongs, at the very top, the worst slayer among all the diseases.

Let us consider how the case appears in our own land.

Patients admitted into the Toronto General Hospital are as a matter of regular routine examined: these tests in 1917 showed that 12 per cent of the Ward patients admitted for ordinary complaints were suffering from syphilis.

In 1918 the like routine examination in the Montreal General Hospital showed that 26 per cent of all the patients were suffering from syphilis.

Routine examinations in a regiment of draftees in Ontario, in 1918, after all cases of known or obvious diseases had been withdrawn showed that 5.7 per cent, that is, more than one out of every seventeen of the men were suffering from syphilis.

In a Canadian reformatory for women, in 1920, 33 per cent of the inmates were found to have syphilis and 80 per cent to have gonorrhea.

In one year as many as 24 per cent of the annual male admissions to Toronto Hospital for the Insane have consisted of general paresis, a fatal form of insanity always caused by syphilis.

Now let me give you a few concrete examples—for one concrete case will often teach more than a score of generalities.

Case 1. In the City of Brantford a man recently applied to the City for relief. He was found to be suffering from rheumatism, and a blood test was made which proved that he had syphilis.

The state of his family was investigated with the following result:

The eldest child was partially blind and deaf.

The next two children were deaf and dumb.

The fourth was a cripple.

The fifth was an idiot.

The sixth was mentally defective.

The seventh, 18 months, gave a positive Wassermann reaction.

The man and all of the children had syphilis, and for the safety of the community and their own they were all placed under treatment.

Two typical syphilitic families discovered in Toronto by social investigation in connection with the Venereal Disease clinic:

Case 2. A young woman, aged twenty-one, came to the Toronto General Hospital clinic suffering from congenital syphilis (i. e., syphilis from birth). The following is the history of her family:

Father died of heart trouble (probably syphilitic).

Mother's marital history was as follows:

1st pregnancy—boy—died aged 6½ months.

2nd " —premature—died.

3rd " —miscarriage—3½ months.

4th " —premature—died.

5th " —boy—died aged 5½ months.

6th " —premature—8½ months.

7th " —born alive—died aged 5½ months.

8th " —born alive—now aged 25 and married. Has had 6 children, 3 of whom are dead.

9th " —boy—died at 18 years—anaemia and congenital syphilis.

10th " —alive—has congenital syphilis.

11th " —died aged 10 months—it was supposed of measles.

12th " —born alive, lived one day.

It is the opinion of the Clinic staff of Toronto General Hospital that all of these deaths were caused by syphilis.

Father's sisters:

One had 18 children of whom 5 are living.

One had 9 children of whom 1 lived.

One had 15 children of whom 3 lived.

This family, or what is left of it, is being treated.

Case 3. Neither the father nor the mother have had any symptoms of syphilis. Their blood tests, however, prove them both to be infected.

Married 1907.

1908—1st child living.

1910—2nd child—died aged 8 months.

1911—3rd child—living.

1913—4th child—died aged 7 months.

1914—miscarriage.

1915—1921—3 more children born.

Of the living children only the last two do not show by blood tests that they have syphilis. The other six pregnancies resulted in either miscarriage, death or congenital syphilis.

The last two cases are cited as examples of the far-reaching results of syphilis. Similar stories both as regards syphilis and gonorrhea are a matter of every day occurrence in the venereal disease clinics throughout the country.

About a year ago in a home of the Children's Aid type a physician in charge undertook to do routine blood tests on all of the children. He found that over 30 per cent of them were syphilitic.

How important is all this knowledge? Let me tell you the result of my personal investigations and computations.

If we could get rid of these diseases and their results I am prepared to prove mathematically that 70 per cent, more than two-thirds of all the money paid by the Province of Ontario in the way of asylums, homes for the feeble-minded, hospitals, etc., could be saved.

We feel indignant and outraged at the brutal conduct of the Germans in bringing on a war that cost Canada the life of sixty thousand of her best and noblest sons—I assert without fear of successful contradiction that if the discoveries of two German physicians were systematically and fearlessly applied, the loss to Canada of life in that German-made war would be made up in less than ten years.

Is this not a field for Government interference? If half as many horses—or cows—or sheep—or pigs (I had almost said—or dogs) were slain every year by any curable disease as human beings are slain by venereal disease, the country would be alarmed and the Governments quick to act.

I am not railing against any Government—no Government can be much ahead of public opinion. Members of the Government should indeed be men of character and vision, leaders of their people; but they cannot be very far in advance of them.

Our people are not fully awake to the importance of the subject. Let me give an example. On a lawyer friend of mine being asked for a subscription to our work, he replied that his sympathies did not go out to those who suffered by reason of giving way to vile passion. I said to him "The wages of sin is death: God is an honest paymaster and if it were the sinner alone who suffered, I, for one, would not be ardent in the work—but it is not the sinning man, it is the trusting wife, the innocent child we must protect." If they do these things in a green tree, what shall be done in the dry?—if a lawyer of great ability and high position with an extensive knowledge of the ways of the world sees in our movement only the succor of sinners, what can we expect of the common man—the "man in the street"?

Almost as I received your invitation to address you there came an official statement from another land which may illustrate the subtle ways, the hideous cunning of this red slayer, syphilis—and I tell it to you both for its intrinsic interest and to show that almost superhuman efforts are necessary to guard against its insidious assaults.

In old Russia, the Government is combating the disease in every way possible—one way is to supply the physicians of the various districts with curative medicine.

A district physician in the Province of Podolie sent in an urgent request to the Moscow health authorities for a large order of a drug used in the treatment of syphilis. Directly after receiving the drugs he repeated the order, and found it necessary later to make a third requisition. The health authorities at Moscow then called for a report. The physician replied that for some months a holy icon had been stationed in one of the villages of his district and that thousands of pilgrims were contracting the loathsome disease. The Moscow authorities at once sent an investigator to the province who investigated with care and published the results in a recent issue of the *Pravda* under the heading: "The Miracle in Kalinovka."

Some twelve or fifteen years ago a devout peasant of the village of Kalinovka erected a wooden cross on a hill overlooking the highway. One day last fall as a peasant was passing the cross he saw a small hole in the breast of the wooden statue of the Christ and a reddish liquid trickling from it. He reported the matter to the priest, who called the Assembly. He and the village elders went up the hill to investigate and were, of course, followed by the villagers. They came to the conclusion that the fluid was blood.

News of the miracle spread through the neighboring country, and pilgrims began coming. Men and women walked miles and miles to kiss the bleeding cross. Trains and cars brought new people constantly. Some of them walked all the distance from their homes.

Before the miraculous cross the pilgrims would prostrate themselves and kiss the wooden image. Some of them carried the germs of disease and with the kisses the infection was spread and hundreds became syphilitic. The Moscow Government had to destroy the cross in order to put an end to the spread of the loathsome disease.

There may be no fear of precisely such an occurrence in our land; but the story, verified as it is, will show the insidious ways of the disease and the urgent necessity of most elaborate precautions. This then was the work we set ourselves in the National Council—to educate and to warn.

As time went by we found our work extending in many directions: our activities necessarily extend to

many fields—and at length we decided to change our name to indicate the real objects we had in view.

We became the Canadian Social Hygiene Council; one of the most important of our functions in education of old and perhaps more especially of the young.

Much of what I am to say is taken from a paper prepared by Mr. A. D. Hardie, Secretary of the Division of Education, Canadian Social Hygiene Council for the First-All Toronto Social Welfare Conference on May 6th, 1925; but I adopt everything I have borrowed from him and add somewhat of my own. I accept full responsibility for all.

I should like to think that you and we are all co-operating in a great movement for the welfare of the people of Canada, a movement in which the Social Hygiene Council can help in one way by collecting the social hygiene work which is already being done, whether under that name or another, by your organization and by suggesting further ways of promoting the end we have in view.

What is that end? And what is Social Hygiene? Social Hygiene is the art of applying the co-ordinated knowledge which may be built up concerning human beings and the means whereby as individuals and as a race their greatest possibilities, physical, mental and moral, may be developed both in this and future generations, and whereby their social relationships may be so organized as to preserve their greatest efficiency and happiness. The end we have in view is better health, greater happiness as the result of right living, and the prolongation of human life.

It appears to me that the work of Social Hygiene is divided into three main parts, medical, social and educational. The doctors have never ceased to fight hard against disease, and as time has gone on have made more and more progress towards successful cure and prevention. On the financial side alone, prevention of disease means enormous saving in the cost of hospitals, mothers' allowances, etc. Thanks to the doctors' efforts, the world is progressing towards good health and a lengthened span of life.

I want to call particular attention to the educational side of our work. Man lives his life only once, and muddles through as best he can, making many a mistake. We teach children the three R's, but we have not learned to educate them in all that goes towards right, efficient and happy living. In recent years, much has been done and done splendidly in this direction by schools, churches and social organizations, but only now are we waking to the need of treating this matter of right living in a scientific way. This is a new and necessary development of social work.

Can we not produce a better, more efficient, and happier race? It can be done, but will be done slowly. If one generation of parents can be fully educated in all that Social Hygiene means and the advantages that accrue from its teaching and practice, the succeeding generation will be an improved race.

Social Hygiene on its educational side means the training of the young on every side of their nature with all its developing needs. This includes, not only the acquisition of knowledge, but also training in religion, recreation, and health, and therefore it is the concern of teacher, minister and doctor, as well as parent. But let me very emphatically say that the most important educator in social hygiene is the parent, who is an unchanging factor, on whose influence mainly depends the character of the child. Teacher, minister and doctor are very valuable allies, but they are only allies.

The business of the teacher is to see that the boy and girl at fourteen or later go forth into the world as

well equipped for life's work mentally, morally and physically as their age and ability allow. The personality of the teacher is all-important; more valuable than the matter taught is the training in good habits, self-control, the right use of leisure—in a word, in life.

The minister's part is no less required. Religion in its proper sense is a binding to something that will hold, and every man, to live his life well requires some religion, something that will bind him and prevent him from going astray. The Church as all else, must keep up to date and be prepared for changes that inevitably are taking place in every living society. For example, the Church has realized the value of recreation, and no longer confines its activities to two services and Sunday School on the first day of the week. Church buildings are a hive of industry every evening. In this the Church is very wise, for in these days, when young people are less given to read or think, religion must take on a new form, and the religion of many a youth is that of physical fitness, a determination to keep himself trained that he may not let down his side when they engage in friendly combat. I believe the Church could make more use at the present time of this admirable characteristic of youth. A United States authority has said that for the next ten years the whole emphasis of education should be placed on health training.

I say with the utmost deliberation that if for one whole year all other education were omitted and education of the body, in health, strength and activity were alone given in our schools—intelligently, wisely and scientifically given—the pupils would "catch up" in less than two years. The tremendous significance of bodily fitness is just beginning to be understood in educational circles.

The doctor's part too is a great one, for without health we can accomplish little. The doctor suffers under a disadvantage that, unlike minister or teacher, his direct influence is apt to be seen only when the subject is in bad health. But the doctor too can join teacher and minister in emphasizing, among other things, the value of a fit body as the material basis on which to build a good, efficient and happy life.

The parents will be glad to be supported by all these helpers, but must themselves take the leading part, both by example and precept, in the whole education of their young. At this present stage in the world's history one of the most striking features of home life is the comradeship between parent and child; the stern parent of fifty years ago has given place to the boy's companion of today.

Perhaps there is no other subject which has been treated so frequently in periodicals of recent years as that of the right use of leisure. The schools are realizing more and more that classroom work is not everything, the churches have done immense work in this direction, much of it being made necessary by the failure of the home to do its share. One recent writer points out that hours of work become shorter, and work itself more mechanical and in consequence hours of leisure become corresponding longer and more important. Character is formed in hours of leisure as much at least as in those of work.

It is my duty to address you mainly on the Essentials of an Educational Programme in Social Hygiene for the child—too great a task, and one which can be dealt with only in outline in this short time. Let me recommend for your reading, "A Study of Sex and Social Health" by T. W. Galloway of New York, after a reading of which this paper was written.

The first period of a child's existence is before birth—prenatal education is as yet but little understood but no

one can question the wisdom of the Mother Church who insists that the expectant mother shall be faithful in her religious duties for the sake of her unborn child. And no one can doubt the advisability of the pregnant woman taking extreme care of her health, bodily and mental, of her equanimity and purity of thought, of her cleanliness of body, soul and mind. There may be, probably is, not anything in the common theory of "birth marks" but body and soul of the unborn are influenced by the conduct of the mother.

We may describe the first five years of life as the Home period or period of babyhood. It is in many respects the most important period of life, especially in the matter of habit formation. "The beginning is half the battle," says the English version of an old Greek proverb; wise educators were the Greeks, and we can learn much from their system of dealing with their children.

It is during this period that mental and social dispositions, tastes, character, habits, etc., are formed. This is not generally recognized, because so much is done unconsciously. But there must be a conscious effort by the parent in character training at the same time. It is not too early for the young member of the family to have a share in home duties, for example, the carrying of spoons and forks and dishes from the table, even at the risk of broken crockery. We all need rewards or satisfactions. There is always more satisfaction to be gained from activity than from idleness, and the practice of little household duties will help to weaken the strength of selfish tastes, which are naturally great, and to strengthen a desire to be socially helpful. And the practice of these duties, as well as other character training received, will help children to become normal and self-controlled, and if they are to be normal and self-controlled, their home environment must be the same. Those of you who saw the "Freedom of Jean Guichet" last month at Hart House will recollect a home in which the relationships were far from ideal. He was a very wise and observant priest who said: "Give me a boy until he is seven years of age, and I am sure of him for life."

In this period, sex hygiene is largely a matter of the care and the health of the person, but a very proper curiosity about the beginning of life may show itself even as early as four. It is especially the mother's part to reply to such questions from the child, and it is a duty to reply and to reply truthfully, telling just as much as the child can understand. For those of you who are interested in this special side of education, I strongly recommend you to read "The Cradle Ship" by Edith Howes. The home can deal with the matter as it arises, deal with it individually, establish personal frankness between parent and child, encourage further reference to the subject as there is need. The school cannot deal with it at the first critical moment, nor continue its education smoothly and under the same instruction and under frank conditions. Dealt with at school, the sex problems, already occupying too big a place in the thoughts, become too prominent; at home sex education can take a secondary place in general character-training. Again, what a child feels most deeply, he will not discuss aloud; dealt with at home it becomes a secret. A school lesson will not leave a deep feeling, and will generally cause discussion among immature boys and girls.

The home instruction must be given in good time, that is, before impressions come from outside. It is the first impression that counts. And remember, that at a certain point a child's intelligence is ahead of his physical

(Continued on page 233)

## Colitis: Its Treatment by Electrotherapy

LOUIS HENRY LEVY, M.S., M.D.

New Haven, Conn.

A condition frequent in the practice of the gastro-enterologist; one often undiagnosed or wrongly diagnosed by those not on the lookout for its presence, is that form of colitis either associated with mucus known as mucous colitis or unassociated with mucus existing as a simple catarrhal form. In the absence of a definite diagnosis an exploratory is often resorted to, and the appendix or some other irresponsible organ removed. As a result of such an operation the condition is always aggravated. Because of the possible complications which can arise the subject is one well worth intimate study, both as to its proper diagnosis and more particularly as to its proper treatment.

Colitis with the exception of the ulcerative type has not found as important a place in the literature as has the ulcerative type. The best study of the condition is given by Abraham and Herschell. Their book gives a very comprehensive description of the subject. The two types dealt with in this paper are the mucous and catarrhal. The symptoms of both these forms are very much alike; although in the mucous form they may be more intense in character. The mucous form is more chronic in nature and it may have been present at intervals of from as long a period as twenty to twenty-five years. It is very probable that many cases of mucous colitis may have started as a simple catarrhal form.

There are many causes for these conditions. They can be classified in different ways. Perhaps the simplest would be to group them into general and local causes, the general causes being still further subdivided into intrinsic and extrinsic. The intrinsic factors are nervous, mental and focal infections. Extrinsic causes are trauma and exposure. Local causes, are such as adhesions from adnexa, which may now be or have been diseased, pressure from intra-abdominal masses or organs and constipation. Inasmuch as approximately ninety per cent of the cases are found in women of a hyperesthetic type, it is probable that nervous and mental states are responsible for a considerable number of cases. Suppressed emotions whether sexual or otherwise play an important part. Many in this group are suggestive of glandular disturbance. This fact is strongly emphasized since many sufferers from colitis give a history of menstrual disturbances. In others the condition becomes more aggravated at menopause.

Focal infection seems to have some bearing in many cases. These however form a small part. Nevertheless infection from teeth, tonsils and other sources must be borne in mind in considering the method of treatment. Injuries to the abdomen, either occurring once or repeatedly as would occur in occupations where undue pressure is being constantly exerted against the abdomen will result in colitis. Improper protection during the cold weather will aggravate the condition.

The commonest local cause producing colitis are adhesions from nearby organs. These adhesions may be present about the appendix region, the gall bladder or a diseased ovary. They may follow operations for the removal of organs, particularly those in the pelvis. Old chronic pelvis abscesses are frequent offenders, especially where there is a coloptosis. These adhesions act either directly or reflexly. Constipation is a common associate of the condition, and in the absence of other causes it may be presumed to be the cause. How-

ever in fairness to the patient in the treatment of the condition, it must not be forgotten that constipation is one of the sequelae of colitis, the constipation in this case being of a spastic type. These are the cases that are made worse by the use of too strong purging agents.

The symptoms are manifold. Perhaps the commonest is pain. The pain is not always confined to one spot. It may be general or it may shift from one place to another. The location and the nature of the pain depends on the part of the colon involved, or on the extent of the involvement. A burning sensation frequently accompanies the pain. Other symptoms are associated with or referable to the stomach. Insomnia is often complained of, loss of appetite, loss of weight, mental depression and melancholia are frequent complaints.

Examination shows the patient to be hyperesthetic. Most of them are of the type usually referred to as hypochondriacs or neurotics. Palpation of the abdomen reveals tenderness along some portion of the colon. Often the tenderness may be found along the entire colon and sigmoid. The descending colon is the commonest site, particularly in the mucous type of colitis. In the mucous type, the pains are increased with the passage of mucus. In these cases the stool will contain either mucus or white shreds, either small or varying to a much larger size that often resembles round worms.

The selection of treatment in either the mucous or simple catarrhal type depends primarily on the etiology of the condition. A careful history must be taken. Psycho-analysis plays a very important part and considerable time is often consumed in the questioning of patients where there appears to be reason to suspect the presence of some form of suppressed emotion. There must be ascertained the possibility of an earlier attack of appendicitis, gall bladder disease, pelvic or an ovarian condition.

Of equal importance is the examination. Distant sources of infection must be excluded. Careful x-ray studies should be made of the gastro-intestinal tract and even the genito-urinary tract to exclude renal or ureteral excitants. A ureteral stone is an occasional find as the cause of catarrhal colitis. The removal of the cause when found does not as a rule result in a cure of the condition. When colitis has been present for a period of one or more years enough damage has been done to the colon to cause definite pathological changes in the mucosa. It is for the restoration of the altered mucosa to its normal state or as near normal as it is possible to correct it, that proper measures must be resorted to.

This paper deals with those cases of mucous and catarrhal colitis where the condition is purely colonic in origin, or where the etiological factor having been removed the colitis still persists. The four important factors in the treatment of colitis are diet, medication, electro-therapy and colonic irrigation. The procedure outlined here is based on the result of a careful study of over two thousand cases of colitis. Most of the cases responded to proper diet and medication. In about two hundred and fifty cases electro-therapy was employed, either with or without medication. In several cases colonic irrigation was also used. As a matter of fact, each case seems to be a case by itself. The selection of foods must be based on their physiological or mechanical action on the gastro-intestinal tract. A simple rule is to avoid all those foods known as roughage. These

foods are in the fruit and vegetable groups. Fruit juices, potatoes and peas are all that are allowed. The cereals allowed are those without residue. Even oatmeal is eliminated. Since most of the colitis cases have associated gastric symptoms, these also must be considered, and foods that stimulate gastric secretion must be avoided.

The medication used has a two-fold purpose. Some medication is given to reduce the hyperesthetic state of the individual, and in this way remove the symptoms resulting from it. Bromides as a rule are able to affect this. In cases where bromides are not tolerated by the patients other sedatives can be used. For the relief of the gastric and intestinal symptoms and for the healing of the pathological mucosa, bismuth is the medicant of choice. Other antacids may be combined with it. The choice of antacid depends on the exact symptoms present. When the bowels are frequent or loose little or no magnesia is given. When flatus or intestinal rumbling is marked the magnesia is also reduced. If constipation is present this should be treated with the mildest cathartics, such as cascara sagrada or phenolphthalin. The amount of cathartic required should be watched carefully, inasmuch as the constipation in most of these cases is of a spastic type responding readily to very small dosage. Larger doses provoke the condition, causing diarrhea and an aggravation of the symptoms.

Treatment per rectum is occasionally resorted to with excellent results. When enemata are given the amounts of water used must be small not over one and one half pints. To the water can be added bicarbonate of soda, bismuth, subnitrate, olive oil, occasionally peppermint or small amounts of glycerine depending on conditions present. At times when marked pain is present sedatives or even narcotics may be given in the form of suppositories with much better effects than when given by mouth.

There are a large group of cases where all these measures only give temporary relief or no relief at all. These are the cases with which this paper is chiefly concerned, and the treatment by electro-therapeutic measures advocated. These cases are of especial interest as many ultimately find their way to the operating room for an exploratory. Too many of these are operated upon in good faith by the surgeon and result in a marked aggravation of the condition and symptoms. It was in seeking for a relief or a cure for this group of cases that a study was made at first on a few selected cases using electro-therapeutic means and especially the ultra violet air cooled lamp as a curative agent. Ten cases that had been under observation and treatment for a period of from one to three years without relief were selected. X-rays had been taken in all cases. Nothing in the history indicated anything else except a colonic condition. In some, affected teeth had been removed and in others the tonsils. In none was there any neurological history, although all were of a hyperesthetic type. Of these cases 8 were women and two were men. In all, treatments were given over a period of three months. Some continued the treatments after that. The treatments were given twice weekly. In every case an improvement was noted almost from the first. In all cases absolute relief was affected at the end of two months. It is now two years since the cessation of the treatment. All of these patients have remained well. Most have had no recurrence of any symptoms whereas some have had slight infrequent recurrence. Altogether about two hundred and fifty cases have been treated by this method.

Not only did symptoms referable to the colon disappear, but the nervous state was improved, appetite was stimulated and insomnia when present disappeared. There was a feeling of general well being as if a tonic

effect had been produced. As a result of the success in these cases ultra violet treatment was advised in all cases not responding to the usual methods of treatments. In those cases where the treatment has been given regularly for a period of from two to three months or more the results have been uniformly excellent usually resulting in a cure at least as far as can be ascertained from the complete disappearance and non-reappearance of symptoms and physical signs. It is of importance to state that in these cases no medication at all was given at any time. The proper diet was given in conjunction with the treatment.

It is difficult to satisfactorily explain the reason for the constant good results by this treatment. It has definitely been proven that ultra violet rays have an important bearing in those cases where there is a lack of vitamins. It has also been proven that certain changes can be produced in the intestinal mucosa due to deficient vitamins in the diet of some people. In some of these cases a correction of the colitis has been affected by the use of proper foods. It would therefore not be amiss to assume that ultra violet rays heal the pathologic mucosa by supplying the vitamins necessary for its well being, when these vitamins are lacking. It is also probable that ultra violet therapy corrects certain states where there is a deficiency in some of the glandular secretions, and in this way stabilizing the nervous mechanism of the individual. As soon as the proper glandular equilibrium is restored proper function of the colon is restored with a resultant healing of the pathological state of the colon.

It would be of interest and extreme importance to have these results corroborated by other workers. There is no doubt in the writer's mind of the good results which others will obtain by proper treatment in properly selected cases. A further report will be made later on the effects of the treatment after a longer interval of time on patients who have already been treated and also on cases that are being treated at the present time.

1172 Chapel St.

#### AN ANTERIOR METATARSAL SUPPORT

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There are so many devices on the market which are supposed to relieve anterior metatarsal suffering that an apology is needed when one presumes to add another to the existing number. However, the small appliance which I am about to describe has a few advantages which justify bringing it to general attention.

It can be made in the office, is durable, "hits the spot every time" and the whole cost is about ten cents.

First of all, the metatarsal "raise" has to be outlined on the plantar surface of the foot; this is done with indelible pencil posterior to the heads of these bones.

Take some bond paper, moisten it with water in that area where we expect the patient to place the afflicted spot, and then proceed to draw the outline of the whole foot with indelible pencil. When the patient lifts his foot from the paper an imprint of the metatarsal "raise" will be found printed thereon.

This paper is tacked to a board and from a piece of three-eights inch hard felt an anterior metatarsal "raise" is cut and bevelled, which in turn is pasted on the paper in its proper place.

Take a leather sole (shoe factory reject), and after having soaked this in water until pliable, mold it over

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## Euthanasia

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Brooklyn, N. Y.

A young Parisian woman shot her lover, who was dying from cancer, to death. When tried for the murder she was freed by the jury after less than five minutes consideration of the case. For six months preceding the trial the question: "Is killing a person, as an act of mercy, justifiable?" had been debated in the Parisian press. The trend of public opinion seemed to be sensed by the prosecuting attorney, who, when he was addressing the jury, turned to the defending counsel, and said: "I envy you your job; would that I were standing in your place."

Since this occurrence a young English woman ended her brother's life with the same pistol which he had used in an attempt to kill himself. A physician, in Colorado, killed his invalid daughter with chloroform, and a young man in Iowa, ended the suffering of his mother and father who were afflicted respectively with cancer and asthma. In all these instances, pity, was given as the motive for ending life prematurely.

The Danish Parliament has been requested to authorize physicians, under certain restrictions, to end the life of a patient who is incurable and in a miserable condition. The Saxon legislators once indignantly voted down a similar measure.

About twenty years ago an unsuccessful effort was made in Ohio and Iowa to legalize euthanasia.

A New York minister impertinently remarked, when a man who had been severely injured in a railroad disaster, was kept from death by the skill of surgeons: "They did save his life, though for what practical purpose I cannot tell—unless possibly for a damage suit."

Ella Wheeler Wilcox, because a certain man's life was prolonged several months, by every possible therapeutic device, took this gratuitous vituperative fling at the medical profession: "Such skill seems to me as wicked as it is selfish. . . . The doctors and nurses, of course, realized the financial gain for them by keeping the poor patient from his certain goal as many weeks as possible."

Two American novelists, Margaret Deland and Mary E. Wilkins, considered the propriety of euthanasia in stories. Margaret Deland seemed to countenance this "crime of charity" in her otherwise admirable novel, "Dr. Lavenders People"; but she compromised the matter by having the cancer-stricken woman put to sleep forever by an overdose of opiate, given by the patient's half-witted sister.

Mary E. Wilkins, in her book, "Doc Gordon," goes a step further, and probably because she has a warm spot in her heart for the medical profession, arranges to thwart the doctor's purpose to hurry the end of his cancer-ridden sister, by having the nurse assume the responsibility of giving a lethal dose of morphine.

In England Mrs. Oliphant, the novelist, argued for the destruction of sufferers from cancer. Ibsen, in his play "Ghosts," causes the young, infected Oswald, to make his mother promise to administer to him all the morphia he has hoarded, in one dose, when the time comes that he is helpless.

D. H. Lawrence, in his yellow novel, "Sons and

Lovers," appropriately in keeping with the character of the book, in which nothing is hidden, makes Paul Morel deliberately kill his mother, a victim of cancer, with all the morphin he can scrape together, administered in her nightly glass of milk.

"What are you doing?" his sister Annie asks, when she sees him crushing the tablets. He replies: "I'll put 'em in her milk."

To add to the kindness of this charming scene, we are told: "Then they both laughed together like two conspiring children."

Such things done for love, and in pity, the law calls murder.

"The doctor's work and duty is to save life, not take it," says a New York physician. "The doctor is bound by the Hippocratic oath not to take life, and that obligation can not be transcended by any law. It is an insulting thing to think of him in the light of a public butcher, and to him the whole idea is loathsome. You may lead a horse to water but you can't make him drink."

Few sick people wish to die; if they did it would be more common for patients to commit suicide. Often when a patient, in a seemingly serious manner, implores his medical attendant to give him something to put him out of his misery, the doctor is positive that the one who is pleading for extinction, is actually not taking the soothing and harmless opiate prescribed to make him comfortable, in a sufficiently large dose, for fear the medicine is given to end his life.

The patient who suffers constant, agonizing pain for a long time is the exception. For acute pain the doctor does not hesitate to give very large doses of opiates—of a size much greater than would be justifiable under ordinary circumstances; this is as far as any conscientious physician has a right to go. When agony becomes intense Nature provides an anodyne in the form of a shock, which numbs sensibility.

In a study of 500 death beds, made by Dr. Osler, with particular reference to the modes of dying, he found that only 90 complained of pain and distress of one sort or another.

"It is a merciful provision of Nature," says Dr. T. Lauder, an English physician unexcelled as a careful observer, "that almost every individual passes out of this world in a condition of anesthesia."

To illustrate how fallible is prognosis an eminent medical man tells this on himself:

"I once saw an apparently moribund patient, in consultation, and unhesitatingly declared that death would occur within three hours. Several weeks later, passing the house in which lived the man I thought was dying, I saw him busily engaged mowing the front lawn."

A woman, in France, supposed to be on her death bed, was sprinkled with nitric acid, mistaken for holy water. She recovered.

A great specialist, after examining a sick man, said the case was absolutely hopeless. He waited a year and then sent bill for services rendered to the ex-

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## Pulsus Alternans

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A ripened field for study presents in the abnormality known as pulsus alternans.

Wenckebach's study of graphic charts, enlisted MacKenzie's fertile investigation, resulting in much of the enlightenment at our command. Pulsus alternans occurs when the left ventricle, from variable force in rhythmic contraction, alternately ejects larger and smaller volumes of blood. The heart beats thus following regularly in reciprocal succession, it usually evinces the alternation as occurring in cycles or phases, rarely as a constant expression.

Designated as an aberration of ventricular systole, alternation is not productive of a symptomatology, its cause being referable to the abnormal condition with which it is found associated.

Ordinarily, the presence of pulsus alternans is only determinable through the assistance of instruments of precision, but its presence may be suspected in the certain disorders with which it is commonly associated, by certain clinical manifestation of cardiac disease.

Although depicting one of the heart irregularities, pulsus alternans is not an intermittence. It distinctly signifies a regularity in beat and the irregularity resides wholly within the force which marks ventricular contraction. No interval occurs between the heart beats, and the presence of intermittence signifies a condition entirely different than that of alternation, as extra-systole. Blood pressure determinations disclose the presence of pulsus alternans, in revealing a difference existing between any two ventricular contractions which alternate, as differing forces exhibited in heart pulsations.

A few minor forms of the disorder are recognized as being of negligible importance. These occur mostly in youthful persons. A persistent and paroxysmal tachycardia, wherein no myocardial strain exists, may evince an alternation, no abnormal state being determinable.

Sometimes alternation occurs in the precritical stage of pneumonia. Again, alternation may be created through the administration of large doses of digitalis, but to be of significance, the presence of the abnormality must pertain to serious changes in the environs of the circulatory system, and in especial that of the mechanism of blood propulsion.

Pulsus alternans is infrequently present in young persons in whom acute cardiac conditions have occurred, but the presence of the disorder in overwhelming percentage, is shown in the severe and chronic myocardial changes which present, in persons of advancing years, the preponderance being found in males of the age of fifty years or more.

In especial, alternation attaches to dilated hearts with decompensation ensuing upon mitral involvement. Here, it is quite common to find auricular fibrillation present, with a confusional pulse for solution before alternation presence can be determined.

Alternation is frequently present in those conditions of cardio-vascular-renal-involvements, approaching terminal states, and here recent observations show that alternation presence is to be detected far more frequently than has formerly been mentioned.

In the clarity of understanding that is being extended us concerning arterio-sclerotic manifestation in the circulatory system, pulsus alternans becomes more enlightening in conditions of cardiac insufficiency, advanced interstitial nephritis, coronary sclerosis and other manifes-

tations which attend cardiolytic or fibrotic heart. There are few of these cases which do not evince some degree of angina, of thoracic or abdominal location, suggesting that if angina presents, it should summon an attempt to determine the presence or absence of pulsus alternans for the purpose of measuring the degree of severity of the condition that attends the patient.

Half of the observed cases of alternate pulsation have carried a systolic blood pressure of 160 Mm. or more. Nearly as large a percentage then present a weakened, decompensating myocardium, carrying a low systolic reading. Over sixty per cent of the cases that have come to autopsy, have shown the presence of coronary sclerosis, arterio-sclerotic kidney and fibrotic change in the vascular system.

Men who have attained the age of fifty years or past, whose condition discloses the presence of sclerosis of the circulatory system, with evidence of cardiac decompensation present in an expression of angina, dyspnea or other significant symptoms, readily imply the presence of pulsus alternans.

Sufferers from nocturnal dyspnea, perhaps productive of anxiety, with gradually declining respiration, in cycles, to the point of temporary intermittence in breathing, to perhaps arouse in sudden, confusional state, or awakening with a sensation of smothering after a short rest period, fatigue distress showing from the repeated interruption of short sleeps, suggest the presence of alternation in the heart impulse, and it is in this class of sufferers that often extra-systole occurs in conjunction with alternate pulsation.

White, studying three hundred polygraph tracings, determined a depiction of seventy occurrences of pulsus alternans, to occasion a conclusion that every case of decompensation with graphic arrhythmia, reveals alternation.

Thomas Lewis estimated that ten per cent of the hospitalized cardiac disorders in mature persons, will reveal alternating pulse.

The heart that is undergoing degeneration, with the production of alternation, is betrayed by any condition that calls for myocardial strain. An increased pulse rate may show a diminished contractile power residing in the heart muscle, and the consequent demand for an increased frequency of heart beat, may serve to disclose the presence of alternation.

Premature heart beats may divulge an alternation in contraction, which may be shown without there being evinced any evidence of serious disturbance in the heart function, and these manifestations are often overlooked unless a deliberate attention is given to the revelations that are contributed through blood pressure observations. White found that seventy-nine per cent of alternation cases under observation, showed an inconstancy in the phenomenon, as occurring with premature contractions. The remaining twenty-one per cent of the observed cases, however, were more continuous, and in consequence, more ominous.

Extra-systole or premature beat with alternation, often uncovers the presence of heart strain. For this reason, seemingly irrelevant conditions of cardiac regularity, may really surface serious cardiac states.

When a normal period of heart rest extends over the usually accurately timed interval or pause, to be followed by a cycle of regularly timed beats, alternations

of an otherwise concealed cardiac strain may be shown. These alternations will usually be found to gradually lessen in their differences in force of blood projection, until an equilibrium of effort closes the cycle. Infrequently, there may be a virtual continuation of extrasystole, to occasion a most confusing admixture of the disturbed timing, with alternate pulsations of heart force.

Pulsus alternans is frequently absent when the sufferer is recumbent, to appear upon postural change of the patient, induced by the exertion expended in sitting up. This betokens a seriousness of the condition of the heart, as the presence of an advanced myocardial degeneration.

Acceleration of the heart or paroxysmal tachycardia following upon exercise, when accompanied by an extrasystole, points to marked heart impairment and exhaustion, and may be well appreciated in its degree of seriousness, if alternating pulse is found accompanying.

A prolonged series of alternations is not required to signify a portentous state, for a few alternate beats, may perhaps, be followed by the sudden death of the patient from the heart over-strain that is present.

The erect position in favoring the appearance of premature beats, is frequently valuable for exposing the presence of an alternation, which finds concealment in the prone position of the patient. Voluntarily holding the breath also, stimulates the appearance of premature beats and tends to expose a latent alternation, and one or both of these aids may be required to manifest an otherwise hidden or deferred pulse alternation.

Unilateral differences in pulsation in the two arms may accompany advanced cardiac change to present alternate pulsation upon one side, and to create an erroneous conclusion as to the cause, but in the remembrance that this form of pulse effect may occur from abnormal arterial location, and at times appear from utterly obscure reasons, there is shown the minor value that distinguishes the presence or absence of pulsus alternans when the blood pressure is determined in one arm alone. The effect of pressure in both radials should be invariably ascertained to check a pulsus alternans accompanying any cardiac disorder.

Hoffman deemed that pulsus alternans appears from a contractile impairment of the heart, through forcible contractions overlapping the normal rest period of the cardiac muscle, to thus encroach upon the next contraction, and so minimize the ventricular output, with successive oscillations occurring until normal pulsation recurs.

The suggestion that an intra-muscular block occurs to minimize the ventricular contraction in the weaker alternate beat, has not been shown to be present in the depictions in electro-cardiographic charts.

Extra-systole usually confines alternations to a few beats. Simple premature beats followed by forcible, alternating ventricular pulsations, do not occur in the normal, physiologic, overactive heart. It is estimated that thirty per cent of the determined occurrences of pulsus alternans, become exposed through the use of the sphygmomanometer. The published findings of Herrick in this particular, have served to thoroughly familiarize us with alternation presence, as well pictured by Lewis in the remark, "Since those who work among the sick usually become more interested in a particular phenomenon by observing it, rather than by reading of it," to bring to our notice a striking and never to be forgotten experience in our first detection of pulsus alternans by the manometer revelation. The graphic representation of the forcible, high, alternate beat, exchanging with the lower, smaller one, clearly impresses the

mind in the observation of the oscillating needle of the blood pressure instrument.

The remembrance in the peculiarity of stethoscopic sound that reaches the ear when the armband is pumped to the point of disappearance of the lesser alternation, is never to be forgotten when the attention has been riveted thereon with an understanding of the process that is being displayed. Thus, the visual and the auditory senses become keenly aware of the presence of pulsus alternans through this depiction so well expressed by mechanical assistance.

Sufficient attention has not been directed to the marked pressure variation that may exist between alternate beats. In especial, the stronger pulsation, in single beat or very limited number of alternate pulsations, may produce a pulse pressure that approaches to very near double that which occurs from the effect of the minimal alternation. Not rarely the greater alternation may register a systolic pressure of 120 Mm. or more, accompanied by relatively low diastolic pressure, whereas the next and minimal alternate contraction, may register as low as 70 to 80 Mm. of mercury, systolic. Usually, these extreme differences are quite widely separated, appearing only now and then to the ear listening with such intent upon the stethoscopic contribution.

This has shown repeatedly in hearts afflicted with advanced degenerative change, where the average systolic pressure showed from 90 to 100 mm. systolic, the single impulses of the higher alternations being strikingly impressive in the oddity of the energetic throbs that are distinguished. These do not generally mark any delayed contraction that follows upon an extra systole.

Sudden death frequently follows upon the development of pulsus alternans, not as a result of such condition, but due to the pathologic state which has developed the incongruity in the beat. White, tracing a series of cases, found that death resulted within twenty-five months from the inception of the disorder. This has confirmation from other high authority, in determining this as measuring the estimated life span, upon accession of the trait. Under prognosis, Lewis advises that pulsus alterans frequently accompanies conditions that are also found disclosed by subsultus tendinum, optic neuritis, risus sardonicus and other like auguries for fatality.

In the minor cases, treatment of pulsus alternans should be directed to a beneficial influence of the cardiac condition that produces the alternation. Prolonged heart rest, selected medication, accessory measures, all are indicated for extending life. One should carry in mind the recollection that these cases live beneath a foreboding shadow, to apprise of the dangers that reside in heart strain, intercurrent sickness and erroneous methods in living.

#### Celiac Disease

This is a relatively uncommon malady of childhood, but a fair number of cases are labelled tuberculous peritonitis, which it resembles in certain particulars. In both the child is pale, sickly, undersized, with swollen, flatulent abdomen, and the stools are frequent, large and foul. Celiac disease is associated with an inability to digest fat; the bulk and pallor of the stools are due to fat. So great is its effect upon nutrition that cases are not infrequently diagnosed as instances of pancreatic infantilism.

The response to dietary changes involving abolition of fat is prompt: milk, butter, cream, yolk of egg must be rigidly excluded for many weeks. There is a great tendency to relapse, and unremitting care and control are essential. On the suggestion that biliary secretion is faulty in these cases taurocholate and glycocholate of soda have been given with benefit, in 1 grain doses two or three times a day; these drugs are bitter, and are best given in gelatin capsules.—(Practitioner.)

## The Early Diagnosis of Cancer

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New York.

Among my many poignant regrets for sins of omission and commission during forty years of practice there are none keener than those which concern malignant disease, with which I had considerable experience during a service of thirty years at the Memorial Hospital.

These cases group themselves into three classes, viz.: Those in which the diagnosis was not made early enough to justify a radical operation; those in which I did not do what we now consider a radical operation; and those in which an early recurrence, proved that I had done more harm than good by surgical interference.

We rarely practice what we preach, but at least I feel some satisfaction in remembering that for over a quarter of a century, as a teacher of gynecology, I hammered into my students these elementary facts, which I believe have borne fruit, in fact, they are still taught by my worthy successors. They were briefly as follows:

View every lump in the body (internal or external), especially if it is *growing*, with suspicion remove it, without unnecessary mutilation and have it examined by a competent pathologist.

Watch every persistent sore at any of the orifices of the body, subject to local irritation and do not fool with caustics. Of course radium and the *x-ray* were then unknown. Do not delay with lumps in the female breast, painful or not, especially in women over forty.

Always bear in mind the possibility of malignant disease in a patient with a wasting disease, whether pain is present or not.

Above all, from the standpoint of the gynecologist, thoroughly investigate every case of menorrhagia, and especially of metrorrhagia, with finger, speculum and curette, the material removed from the uterine cavity, or the suspicious wedge from the eroded cervix, being examined microscopically. Disregard absence of pain and foul-smelling discharge as sufficient evidence of the absence of cancer.

Many of us can recall cases in which we were caught napping, to our bitter regret later. I hold no brief for a special mode of treatment—surgical, radium or *x-ray*, being concerned entirely with the question of early diagnosis. In spite of the earnest and patient labors of research-workers here and abroad, it is admitted that we have not yet discovered the real cause of cancer, or isolated its specific germ; but we do know a lot more about its development, varieties and prognosis than we did, and are always hopeful that we can use the word "cure" advisedly, if not with undue confidence.

Personally I do not regard a patient as "cured" until ten, not five, years have elapsed and I have few living who have fulfilled my own conditions. The Society for the Control of Cancer, of which I had the honor to be one of the founders, has worked steadily and persistently to educate the laity to regard cancer as a curable disease, if attacked at its inception, especially in the so-called "pre-cancerous" stage, and both medical and surgical authorities (with Mayo on one side and Barker on the other) have made it clear that cancer is primarily a local disease, occurring (like tuberculosis) in an individual with a "tendency," (to use a popular term,) at points where continued local irritation, improper hygiene, etc., favor its development. All this is now familiar to hundreds of thousands of men and women throughout the world.

How about the general practitioner who ought to know at least as much as his patient? I am not going to mince words, for I long since passed the time when I care for anything but truth.

When a fine, healthy-looking woman comes to me with no pain, no loss of weight, no symptom but an irregular bloody vaginal discharge—not even foul-smelling, and I find on examination that she has an inoperable cancer of the cervix uteri; and when I learn that she has been under treatment for several months by a reputable practitioner, I ask myself: "Was he honest or ignorant?" I leave this question to the reader. It is my painful duty to lie to the unhappy patient and to support her doctor.

We always had two wards for incurables in the old Memorial Hospital and the patients all gave the same history—that their physicians had not told them that they had cancer until it was too late to help them. Under the present regime, with an ample supply of radium and skilled radiologists, of course they can at least be relieved.

My medical brother, in country, or small town practice, you have no excuse if you overlook a case of early cancer, when your medical journals are teeming with advice on this subject and a symposium is held at every large medical meeting.

As for the younger generation, who have all the aids to diagnosis which we did not have, if you cannot diagnose commencing cancer, probable ectopic and acute appendicitis you ought to be "shot at sunrise," as in war-time when a soldier fell asleep at the listening-post and let the enemy sneak past him. Prophylaxis is the key-note of modern medicine and we are just beginning to realize that it is applicable to malignant disease, as well as to contraception.

I have as a routine method amputated every badly lacerated, eroded and indurated cervix for forty years and have followed many of the cases afterwards. Every specimen was carefully examined by a competent pathologist and in a few cases I found that I had arrested epithelioma of the cervix in its very inception, and there were no cases of recurrence either. I used to feel that I had really done more good by this simple operation than by all my abdominal pan-hysterectomies, with their large mortality and frequent recurrence, or by vaginal extirpation.

Listen to the last words that I ever heard my dear old teacher, Thomas Addis Emmet, say when I said good bye to him: "The best thing that I ever did was to urge the importance of amputation of the cervix uteri, instead of trachelorrhaphy, in every case of extensive erosion and induration, to prevent the future development of cancer." [We now know that Epithelial may develop in women who have not borne children, and that we must revise on former ideas on its etiology.]

### Asthma

True asthma begins in early years and is a disease of childhood, frequent in nurslings and in the first two years of life. The aetiology is dominated by arthritic heredity. If the parents or grandparents are not themselves asthmatic, they are always more or less affected with arthritism: Migraine, diabetes, obesity, gravel, rheumatism, eczema, neuralgia, neuroses, etc.—(Dr. Julius Cornby.)

## Complications Incident to the Operative Treatment of Simple Goiter

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The causes, the prevention and the treatment of the operative and postoperative accidents incident to the surgical treatment of simple goiter are well worthy of study.

Goiters associated with hyperthyroidism, primary or secondary, the various types of suppurative and malignant neoplastic disease of the thyroid gland differ so much from simple goiter in etiology, pathology, clinical manifestations and therapeutic indications that they are outside of the scope of this paper. Aberrant goiters, cervical, lingual, endothoracic, etc., presenting additional and special dangers by virtue of their anatomical relationships, are likewise excluded.

A simple goiter may, at any time, become the seat of: (a) Hemorrhage. This may lead to a sudden and marked increase in the volume of the goiter, to cyst-formation or to extravasation of blood into the para-tracheal, mediastinal and other neighboring regions. Any of these conditions, singly or collectively, can determine tracheal compression, obstructive dyspnea<sup>1, 10</sup> and necessitate immediate surgical relief. (b) Abscess formation or diffuse suppuration. This may occur in the course of or after any of the infectious diseases; it may occur in the absence of any other evident constitutional disturbance.<sup>2</sup> The advent of infection increases the pressure symptoms. (c) Malignant disease<sup>3</sup>: sarcomatous or carcinomatous. Malignant disease occurs more frequently in goitrous than in normal thyroid glands.<sup>3b</sup> (d) Degenerative structural changes, provocative of hyperthyroidism, hypothyroidism or dysthyroidism.<sup>4</sup> (e) Inflammation. The processes of degeneration present in goiters lower the local tissue resistance and predispose to inflammation. The swelling inherent to inflammatory neoplastic and other degenerative processes of the thyroid gland exerts nefarious pressure on the trachea and esophagus. The severity of this pressure is determined largely by the size and location of the swelling, tumor or cyst.

The operative removal of goiters eliminates these potential dangers and has further advantages. It can and should be strongly emphasized that intraglandular enucleation and subtotal thyroidectomy, each, give extremely good immediate and remote functional results. The trachea is freed from all abnormal pressure. Many of the disturbances of phonation and respiration occurring immediately after operation are temporary, normal function being restored in from a few days to several weeks. Operations for simple goiter, for goiter unassociated with hyperthyroidism, are not attended with more than the usual risks incident to all major surgical operations. They give highly satisfactory cosmetic, functional and curative results, especially if surgical relief is sought before the patient has been subjected to repeated courses of iodine therapy and before the occurrence of degenerative visceral changes.

De Quervain<sup>5</sup> reports 2,200 operations for simple goiter with a mortality rate of .86%. For all patients up to forty years (1682 cases), the mortality was only .96%. In patients under the fortieth year, these operations, performed according to the approved present-day technic, are practically devoid of risks. The risks in-

crease rapidly thereafter; after the sixtieth year, in the absence of urgent indications, it is preferable not to operate.

Operative treatment is indicated in all forms of simple goiter, the goiter of adolescence, of pregnancy and of the menopause being excepted, if the goiter, by its pressure, causes: (a) Respiratory disturbances (bronchitis, pulmonary emphysema, obstructive dyspnea, asphyxia, etc.). In all patients presenting symptoms of obstructive dyspnea, early intervention is urgently indicated. (b) Circulatory disturbances. Many goitrous patients are cardio-vascular, cardio-renal defectives. "Every goitrous patient is exposed to asphyxia and to cardiovascular accidents."<sup>11</sup> "A goitrous patient is predisposed to myocardial disease."<sup>12</sup> (c) Nervous disturbances "The paralysis of the recurrent laryngeal nerve which antedated the operation, in ten cases was not improved by the operation" (4). (d) Difficulty in deglutition. (e) In the presence of severe pain, of unsightly deformity, of rapid growth of the goiter. (f) If the goiter becomes excessively large, interfering with the patient's work, with his sleep in the recumbent posture. (g) If the goiter does not respond to medication. One should not lose sight of the dangers of non-operative methods. Hyperthyroidism has followed treatment by radium, by serum, by injections of boiling water, etc. As adenoma of the thyroid gland do not respond to medication, they should always be removed. Operation reveals the relation of the goiter to the other cervical structures, shows whether the goiter extends into the thoracic cage, around the trachea to the esophagus, etc.

Accurate and detailed knowledge of the origin and nature of the operative and postoperative dangers incident to intraglandular enucleation and to subtotal thyroidectomy acts as an incentive to early, to more timely operations and to the institution of surgical relief previous to the advent of local complications, previous to the development of degenerative visceral changes. The earlier the operation, the less the risks, the better the end-results. Timely operations skillfully performed will lessen the frequency and the morbidity of the accidents herein considered, will reduce the operative mortality and improve the end-results.

These surgical complications, avoidable or unavoidable, of minor or major importance, are due, in part, to the patient's unfavorable physical condition at the time of operation, to the use of a method of anesthesia not adapted to the case at hand, to lack of proper correlation of the anesthetic to the technic, to the operator's lack of technical skill, experience and judgment in surgery of the neck, etc. Owing to the study given to diseases of the thyroid in recent years, these accidents are now better recognized, better understood and better managed. The main conditions that may confront the operator are: Hemorrhage, primary or secondary; injuries to the recurrent laryngeal nerve or nerves (compression, contusion, laceration, division); injuries to or partial or complete removal of the parathyroid glands (tetany); postoperative hyperthyroidism; excessive removal of thyroid tissue (myxedema) and postoperative infections. Chief among the uncommon complications

are: Air embolism, collapse of the trachea, esophageal injuries, pneumonia and recurrence of the goiter. Complications, such as unilateral or bilateral division of the sympathetic and vague nerves, injury to the pleura, etc., which we have not met in our private or hospital practice, we refrain from discussing.

#### Hemorrhage

It is of arterial, venous, capillary or mixed origin. In operating on goiters, we are operating in a very vascular region, on a vascular organ, an abnormally vascular organ. The thyroid gland presents extensive anastomoses not only between the vessels of the same lobe, but also between those of the different lobes. After ligation of the four thyroid vessels, the circulation is reestablished through extraglandular anastomoses.<sup>16</sup> Serious hemorrhages may occur at the time of operation, immediately after the patient has been conveyed to bed or during the postoperative period.

At the time of operation, some hemorrhage is unavoidable. Profuse hemorrhage<sup>5</sup> must be guarded against; it is alarming and, if not controlled, may prove fatal. The vessels of a goitrous thyroid gland show a marked tendency to degeneration. They are dilated, their elasticity is impaired, they tear easily. In some cases, the cervical veins, especially those located at the lower part of neck, are dilated tremendously. The arteries show a thickening of the intima and degeneration of the elastic fibrillae. Care must be taken not to injure the internal jugular veins or the carotid arteries. During the operation, owing to the lowered blood pressure, small arterioles and venules may not bleed and thereby escape ligation or suturing. With the return of consciousness, the blood pressure rises and hemorrhage may occur. Immobilization of the operative region not being feasible for the first two days following the operation, the patient is to be closely watched, as violent coughing, violent retching, vomiting, too frequent change of position, undue activity can bring on abnormal intra-venous pressure followed by hemorrhage.

Secondary hemorrhage following thyroidectomy may be sufficiently serious to cause death. Chief among its causes are premature absorption, slipping or unknotting of unsecurely tied ligatures, erosion of vessel-walls, errors of technic such as faulty asepsis, overlooking of bleeding points at time of operation, delayed removal of drains, etc.

Hemorrhage manifests itself by pallor, rapid and superficial breathing, rapid and weak pulse; the dressings may be saturated with blood. If the hemorrhage be not checked, it leads to obstructive dyspnea, to asphyxia; it may result in collapse. The loss of blood in itself is a danger. Furthermore, the extravasated blood may exert dangerous compression on the trachea thereby giving rise to serious respiratory disturbances.

In cases of secondary hemorrhage, reopen the wound widely and carefully and rapidly remove all the blood clots. Locate the bleeding points and ligate the bleeding vessels at their divided ends; reunite the wound edges and apply appropriate dressings. After the hemorrhage has been controlled, if the pulse be alarmingly weak, give normal salt solution subcutaneously and rectally and also such medicinal agents as are indicated.

To lessen hemorrhage, primary or secondary, operative or postoperative, always: (a) Operate in suitable surroundings, aided by competent assistants and as rapidly as is consistent with the indications, with the patient's safety. It is needless to employ a long and laborious technic. Celerity is an element of success. (b) Use an incision that gives an adequate exposure of the goiter. (c) Be gentle in all operative maneuvers. There

should not be any needless traumatizing of tissue, any avoidable tearing of vessels, etc. The rupture of a large deep seated vein leads to troublesome hemorrhage and to an obscured operative field. (d) Secure thorough hemostasis. Keep the operative field as dry as possible from start to finish. Every bleeding point should be tied with catgut before the wound is closed. (e) Follow standard operative technic: knot all ligatures carefully, grasp and ligate veins as they are divided. It is not necessary to place a cart-load of hemostatic forceps on the patient's neck. In goiter operations, attempts to permanently control hemorrhage by compression are unreliable. In the enucleation of adenomata, all dead spaces are to be obliterated by suturing.

#### Recurrent Laryngeal Nerve Injuries

The recurrent laryngeal nerves<sup>2</sup> are more commonly injured than is believed. They supply all the muscles of the larynx except the crico-thyroid. Dubs,<sup>21</sup> in 840 goiter operations, reports twenty-six cases of recurrent nerve injury. Capelle<sup>17</sup> in 1,700 bilateral resections, had 1.3% permanent injuries of the recurrent laryngeal nerve. In operations on goiters, the branches or trunk<sup>22</sup> of one or of both nerves may be clamped, compressed, contused, stretched, lacerated, torn, included in a ligature or divided. Postoperative paralyses of these nerves are occasionally due to their inclusion in scar tissue, to their compression by inflammatory exudates or to the retraction of cicatricial tissue. The pareses or paralyses caused by injuries of the superior laryngeal nerve are not so manifest, not so significant as those due to recurrent nerve injuries and will receive here no further mention. An injury of the recurrent laryngeal nerve may be symptomless, may escape detection. It may first be detected by mirror examination of the larynx and may have only slight appreciable effect: a change in the pitch of the voice, more or less permanent hoarseness, slight difficulty in breathing, etc. When a unilateral nerve injury is not compensated by the uninjured vocal cord, aphonia, obstructive dyspnea and other symptoms result. "The complete restoration of phonation and respiration to normal occurs with restoration to normal of the muscles and cord on one side."<sup>23</sup> Normal voice is restored through compensatory efforts of the normal cord.

Vocal cord paralyses of operative origin result from stretching, clamping, tying, or division of recurrent laryngeal nerve or nerves. Traumatic injuries unassociated with complete nerve division produce symptoms of a temporary character, symptoms which in time disappear.<sup>18</sup> Injuries involving both recurrent nerves constitute a serious complication. If both cords assume the cadaveric position, there follows a permanent aphonia and later an obstructive dyspnea which, if unrelieved, may be a contributing or decisive factor in the patient's death. Complete division of both nerves has resulted in death from deglutition pneumonia.

Preoperative mirror examination of the larynx gives the examiner exact and positive information concerning the state of the vocal cords,<sup>9</sup> it is a protection to the physician and to the patient. Previous to operation, one cord may be found to be motionless. When one nerve is paralyzed, the patient depends solely on one cord for phonation and normal respiration; in these cases it behooves the operator to be most careful not to injure the opposite and unaffected nerve.

The recurrent laryngeal nerves are found posterior to the capsule of the thyroid gland, along the side of the trachea and in the groove between it and the esophagus. By scrupulously respecting the posterior capsule with which the nerves are intimately associated, the recurrent laryngeal nerves, always, and the parathyroid

glands, almost always, will remain uninjured. The recurrent laryngeal nerves and the parathyroid glands are most surely avoided by leaving the region they traverse entirely unmolested and by not removing the posterior mesial lower part of each lobe of the thyroid gland. Gentleness in the use of hemostatic forceps, in the insertion of sutures and in the handling of tissues tends to lessen the incidence of nerve injury. Rough attempts to shell out, to drag out a deep seated goitrous gland may so stretch the recurrent laryngeal nerves as to cause paralysis of both vocal cords. The nerves may be pinched by a hemostat with other tissue, may be included in a ligature. Some operators, in resecting the lobes of the thyroid gland, proceed from within out. At the time of the patient's discharge from the hospital, re-examine the larynx and determine the presence or absence of any incompetency of the vocal cords.

After subtotal thyroidectomy, loss of voice of varying degrees<sup>8</sup> is due to one or more of the following factors: (a) Change in position of the laryngeal muscles and cartilages, due to the removal of the goiter and the consequent shifting of the displaced larynx back into its normal place. (b) Edema, obstructive or inflammatory, of the laryngeal and peri-laryngeal tissues. Keep the line of dissection away from the trachea and larynx thereby saving more tissues about these structures and preventing the swelling from extending to the mucous membrane. The laying bare, the denudation of the trachea predisposes to severe bronchitis and endangers somewhat the recurrent laryngeal nerves. In catching bleeding vessels on the surface of the trachea, include in the ligatures as little as possible of the perivascular tissues. These tissues contain the sensory nerves to the trachea and their irritation causes cough and increased secretion of mucous. (c) A true myositis. (d) Trauma of the recurrent laryngeal nerve. (e) Prolonged interference with function.

Pemberton, in discussing postoperative obstructive dyspnea, says: "The routine laryngeal examination of all patients before and after operation and the careful search for a traumatized recurrent laryngeal nerve in all cases of obstructive dyspnea coming to necropsy, has clearly demonstrated that the cause of fully 90% of all cases of marked postoperative obstructive dyspnea is due to a paralysis of one or both vocal cords, the result of an injured inferior laryngeal nerve."

If the vocal cords be in the middle line position, the same author suggests one of the following three procedures: (a) Permanent tracheotomy. This has obvious disadvantages. (b) Removal of a portion of one vocal cord and of part of the ventricle. This may result in aphonia; it may give only partial relief. (c) The descending branch of the hypoglossal nerve has been anastomosed to the inferior laryngeal nerve (Frazier). This procedure is difficult and is, as yet, only in the experimental stage. Crile<sup>14</sup> advises that the vocal cords be clipped in the center of their free margins, leaving a free space for the passage of air.

#### Postoperative Tetany

The parathyroid glands, four in number, two on each side, are, as a rule, located posterior to the capsule of the thyroid gland and lateral to the esophagus. These glands, inconstant in number, irregular in location, have a function which appears distinct and separate from that of the thyroid gland. Their physiological importance is out of proportion to their small size. The anatomical integrity of these glands is of essential importance to the human organism. Numerous theories concerning the function of these structures have been advanced. They are said to regulate muscle tonus, to form a part

of the detoxication metabolism of the body and to control calcium metabolism.<sup>24</sup> Calcium metabolism enters into many medical problems.

The prophylaxis of postoperative tetany presents difficulties due chiefly to the irregularity in number and location of the parathyroid glands. According to most anatomists, the parathyroid bodies receive their blood supply<sup>25</sup> from tributaries of the superior and inferior thyroid arteries and from anastomotic branches of the esophageal arteries. Postoperative tetany is infrequent. It can be caused by any interference with the blood or nerve supply of the parathyroid glands which may follow direct trauma, pressure from obstructive or inflammatory edema of surrounding parts, contraction or retraction of scar tissue or by removal of one or more parathyroid glands. The parathyroid glandules, after interference with their blood supply, do not resume their function and the manifestations of tetany do not come to an end before the collateral circulation is reestablished.

De Quervain,<sup>26</sup> in 2,203 goiter operations, never had a case of pronounced tetany. He observed symptoms of slight functional disturbance of the parathyroids in only three patients. The best technicians take great care to neither traumatize nor to remove any of these glandular bodies. Injury and removal of the parathyroids can almost always be avoided by leaving a layer of glandular and capsular tissue undisturbed at the back of the thyroid gland. This same precaution protects the recurrent laryngeal nerves.

The deficiency of one or two parathyroids may not cause hypoparathyroidism. Nevertheless, if a parathyroid be accidentally removed, it should be transplanted at the close of the operation, preferably beneath the remaining thyroid lobe. Be sure of the nature and state of the transplant. We advise this because the actual condition of the individual glands is not known, as they are often rendered useless by hemorrhage or degenerative changes.

Eiselberg<sup>17</sup> in 2,373 goiter operations, records six deaths from tetany; six other patients developed chronic tetany. Knaus<sup>18</sup> reports 619 goiter operations. Five of these were followed by tetany; three recovered and two died. As the operation is nowadays usually bilateral and less radical and because surgeons have come to fully realize the value of preserving some part of the thyroid gland on the posterior capsule, injury to the parathyroids is of very frequent occurrence. Leave the posterior capsule; do not remove it.

Parathyroid insufficiency may appear any time from six hours to three or four months after operation<sup>20</sup>. It almost manifests itself by circumoral pallor, by a tight glossy appearance of the skin of the forehead, nose and face, by a sensation of stiffness in the fingers, by carpopedal spasms, etc. It is difficult for the patient to raise his fingers to his mouth or to hold anything. The lowered calcium content of blood serum or plasma causes exaggerated nervous irritability (Mac Callum). These symptoms pass off in a few hours or a day, possibly after one or two doses of morphine or the condition gradually progresses until the contractions involve the muscles of the hands and arms; sometimes the contractions become general. If, in the course of goiter operations, injury or removal of the parathyroid bodies be avoided, tetany will be a rare complication and occur only in its slightest forms.

Postoperative tetany is treated as follows:

(a) By restoring the calcium content of the blood serum to within normal limits. This is effected by administering calcium lactate, gr. xx every four hours until relief is obtained. It is to be given orally, by enema,

subcutaneously and exceptionally, intravenously and in larger doses, if necessary. The calcium lactate should be given in water and continued as long as the patient shows symptoms of nervous irritability such as Chvostek's and Rousseau's signs.

(b) By transplanting human parathyroids. The parathyroids used are obtained from fatal accident cases and from normal infants who have died during delivery. These transplants are difficult to obtain, are readily absorbed and of service to the organism<sup>15</sup> while the remaining parathyroids undergo compensatory hypertrophy or the injured or diseased ones recover. Transplantation may be made in the left abdominal wall between the peritoneum and the rectus muscle. Should the patient later submit to an operation for appendicitis, the transplants will not be disturbed. Some operators embed the grafts in the supraclavicular fossa beneath the cervical fascia. The microscope enables one to determine whether or not the transplant is unquestionably parathyroid tissue.

(c) By the various parathyroid serums in the market.

(d) By the ingestion, orally, of parathyroid products. Lahey<sup>11</sup> and others dispute the therapeutic value of parathyroid extracts.

(e) By medicinal therapy largely symptomatic in nature. Chloral hydrate per mouth or per rectum, repeated as needed; morphine sulphate; magnesium sulphate in 25 per cent solution subcutaneously<sup>15, 20</sup>. Have patient drink plenty of milk and avoid all kinds of meat.

#### Air Embolism

It is a possible, though a very uncommon complication of operations about the neck. Many active surgeons possess only a theoretical knowledge of the condition. Among its predisposing etiological factors should be mentioned: The restlessness of patients operated upon under local anesthesia, great loss of blood and wounds of valveless dilated veins. From the prognostic standpoint, owing to its rarity, it is almost negligible.

If during inspiration air is sucked into a wounded vein and carried to the right heart, there is usually produced a peculiar whirring or churning sound synchronous with the cardiac systole. The danger of this complication is in direct ratio to the air aspirated and to the rapidity with which it enters the veins. If dangerous symptoms or death do not immediately follow the occurrence of air embolism, the accident need not cause the surgeon any further worry. A few cases of temporary paralysis due to air embolism are recorded in the literature.

Treatment: Prophylaxis is the watchword. To lessen its incidence, keep in mind its possibility, minimize hemorrhage, avoid rough handling of tissue, keep patient in the horizontal recumbent position during the entire operation (the sitting posture favors the development of air embolism) and doubly ligate large veins before dividing them.<sup>28</sup>

As soon as this accident occurs, to prevent further aspiration of air, elevate the foot of the table, tampon and flush the wound with normal salt solution. While the tampon is being cautiously removed, clamp the wounded vein or veins and ligate them. Artificial respiration may lead to more air aspiration and therefore is not to be practised. Naegle, Jahn and others used forced inhalation of oxygen.

#### Tracheal Collapse

Long continued, unilateral or bilateral, pressure of voluminous goiters can determine either a loss of elasticity, a softening, an atrophy or an almost complete disappearance of the cartilaginous tracheal rings. In these cases, the trachea, after losing the support afforded by

its attachment to the thyroid gland, sometimes persists in kinking and in collapsing at the close of the operation. There is no danger of tracheal collapse if the tracheal rings are normal. Many factors enter into the causation of tracheal flattening and collapse: The patient's age, the goiter's histological structure and consistency and, especially, the long continued traction or pressure exerted by the goiter as in the scabbard trachea.

Collapse of the trachea causes obstructive dyspnea, amounting, in some cases, to asphyxia. With increased violence of the inspiratory efforts, there results a more complete mechanical obstruction to respiration.

Tracheal collapse may be fatal<sup>18b</sup>; in extreme cases, it may necessitate a tracheotomy.<sup>23</sup> It may take days, even weeks, for the trachea to recover its efficiency. In about six months, complete recovery usually takes place.

Treatment: By means of a sharp tenaculum inserted on each side of its collapsed portion, the trachea is drawn forward. Should it persist or show signs of recurring collapse, fasten, by a few catgut sutures (stay sutures) the sides of the trachea to the surrounding tissue or fix the resected goiter stumps to the under surface of the sternocleidomastoid or omohyoid muscles and thus secure the tracheal dilatation and prevent recurrence of the collapse. Avoid perforating, by needle or tenacula, the cartilaginous rings or the entire thickness of the tracheal wall and thereby eliminate such complications as necrosis of tracheal rings, wound infection, etc.

#### Recurrence of Goiter

Recurrence of goiter and recurrence of symptoms are noted in a small and decreasing percentage of cases. The portion left, the opposition lobe or the isthmus, may hypertrophy. It is most frequent within the first five years after operation.<sup>22</sup> Recurrence causes symptoms chiefly when bilateral. Some recurrences cause only cosmetic defects. After enucleation, cysts or adenoma of new formation have been observed. Dubs,<sup>23</sup> in 840 goiter operations, reoperated fifty-three patients in each of which the recurrent goiter visibly and palpably exceeded the normal consistency and size of the thyroid gland.

In general, the amount of tissue to be left should be the functional equivalent of a normal gland. Postoperative prophylactic treatment: The use of boiled drinking water, orange juice, the suppression of all foci of infection (teeth, tonsils and others), etc., is very important. I follow the practice of Crile<sup>20</sup> who believes that, by giving minute doses of iodine for not less than one year after thyroidectomy, recurrences are prevented. In this connection, keep in mind that some patients are iodin-refractory and others re iodin-susceptible. Operation on a recurrent goiter is more dangerous than the primary operation on account of the necessity of preserving an adequate amount of gland tissue and of the presence of cicatricial adhesions.

#### Postoperative Hyperthyroidism

Owing to the present-day combined medical and surgical treatment of goiter cases, postoperative hyperthyroidism is infrequent. According to the latest researches, it follows the entrance of glandular elements and ferments squeezed out of the gland into the circulation. The absorption of thyroid secretion, during the operation and afterwards, also takes place through the wound surface. The patients are seized by a psychic storm, usually of an agitated maniacal type, there is restlessness, accelerated pulse-rate, reaching 150 to 160 per minute, elevation of temperature (105°—106° F.), disturbed cardiac action, etc.

The frequency and severity of postoperative hyperthyroidism are lessened by observance of the following

precepts: Operate as rapidly as consistent with the patient's safety and the completeness of the operation, secure perfect hemostasis, avoid squeezing of the gland and all needless traumatizing of tissue, make ample provision for drainage and see that oozing blood and effused thyroid secretion escape easily and do not remain in contact with the wound surface.

Drainage relieves tracheal compression due to post-operative hemorrhage and prevents hematoma formation. After all goiter operations, give large quantities of normal salt solution subcutaneously and rectally. By this practice the absorption of thyroid secretion is lessened and general elimination is increased. For the high temperature, the cold pack is most serviceable.

#### Postoperative Myxedema

Total thyroidectomy, having been frequently followed by myxedema, is now no longer performed. In goiter operations, hypothyroidism will not result if a small piece of thyroid tissue with adequate blood and nerve supply is left. "The old procedure of removing one lobe is inadequate. The dictum that one-fifth of the thyroid mass should be left is equally unsatisfactory."<sup>27</sup> If we leave a quantity equal to about one-fourth of the healthy gland, symptoms of thyroid deficiency will not develop. In the individual case, the quantity of gland tissue to be saved is to be left to the surgeon's judgment. He alone has a thorough knowledge of the patient's condition. This is essential to determine when and what to do rather than where and how to do it. Some operators leave small masses at each horn of the organ and, in addition, a thin layer of thyroid tissue attached to the posterior untouched part of the gland capsule. These masses are well supplied with blood and lymphatic vessels and can, if needed, undergo compensatory hypertrophy.

In postoperative myxedema, there is impaired memory and intelligence, there is apathy, somnolence, great disinclination to effort. An edematous swelling of the skin develops and the patients complain of feeling cold. In young individuals, the growth is stunted. Hypothyroidism is characterized by a definite reduction in the basal metabolism; the metabolic rate is always lower than that of normal individuals of the same age and sex.

The successful management of these cases is one of the noteworthy triumphs of organotherapy. Institute treatment at the first appearance of symptoms. Make up the deficit of thyroid secretion by thyroid treatment. In directing and guiding thyroid administration, metabolic rate determinations are of the greatest importance. Bring the patient's metabolism to normal and ascertain the dose necessary to keep it there. The patient is to be given iodothyron or another suitable preparation of thyroid gland or may be fed thyroid gland substance. The active principle of the thyroid gland, thyroxin, may be given intravenously. Thyroid gland tissue has been implanted. The treatment by organotherapy is to be continued for weeks, for months and thereafter is continued intermittently for some time; it may have to be continued for many years. In course of time, the symptoms of thyroid deficiency usually subside and may permanently disappear.

#### Postoperative Infections

Despite careful asepsis and perfect hemostasis, every now and then postoperative infections occur. They usually come from without, exceptionally, from within. In their causation, local tissue resistance and the individual's general resistance are not negligible factors. In the space remaining after removal of the goiter, blood and wound secretion easily pool and are prone to infection.

The indication is self-evident. Let your technic be

flawless. Do not wound the trachea or the esophagus; these wounds are often followed by infection of neighboring regions. Should the esophagus be accidentally wounded, immediate exact apposition and suture of the wound edges is indicated. After all goiter operation, drain for about forty-eight hours, thereby preventing the symptoms and sequelae due to retained thyroid secretion and extravasated blood. The treatment of post-operative infections occurring in this region is that of infections in general.

#### Postoperative Pneumonia

Owing to its unfavorable prognosis, it always gives the clinician the greatest concern. The pain in the wound hinders expectoration and lung aeration. The pneumonia may be endemic or epidemic in nature, may be postanesthetic, may follow the aspiration of mucus, blood or stomach contents, may follow exposure to cold during or after operation, may be due to infective emboli, etc., but, most often, almost always, is primarily due to an injury of the recurrent laryngeal nerve or nerves. In the etiology of pulmonary complications, injury of the recurrent laryngeal nerve or nerves is the paramount factor. In old individuals, this condition is frequently hypostatic in type and fatal in outcome. The abandonment of prolonged anesthesia, the avoidance of unnecessary exposure, denudation and rotation of the trachea and especially care to not injure the recurrent laryngeal nerves, have practically eliminated postoperative pneumonia as a danger in goiter operations. If by accident the trachea be opened, guard against the aspiration of blood. Should the latter occur, lung abscess or deglutition pneumonia may follow. The treatment of postoperative pneumonia is, as yet, purely symptomatic.

#### Disturbed Deglutition

In dislocating large goiters, the nerves supplying the pharyngeal muscles may be traumatized. Dysphagia of several days duration always follows goiter operations; it is usually manifested by pain on swallowing. Sometimes after operation, patient chokes when trying to swallow fluids. The liquid flows back into the nose or drops into the larynx and trachea. Combat this by turning patient on his face with his head over the edge of the bed; place the glass on the floor or on a low stand and let him drink through a tube uphill. All nourishment will have to be given in this manner until normal control of the pharynx is regained.

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59 East Madison St.

## Public Health

### Child Marriages

Approximately 700,000 people in the United States have been child brides or have been married to child brides, that is to say, there is a larger number of children married under the age of 16 years than has been believed. Further, the responsibilities for early marriages cannot be placed in the homes of foreign born, for the great majority of child brides are native white and of native parentage. In "Child Marriages" by Mary E. Richmond and Fred S. Hall, one learns that the legal maximum marriageable age is 14 years for boys, and 12 years for girls, in fourteen states, including Kentucky, Louisiana, Virginia, Florida, Maine, Pennsylvania, Rhode Island, Tennessee, Colorado, Idaho, Maryland, Mississippi and New York.

There have been great changes in attitudes towards the marriage age. Early marriage is not entirely contrary to recent trends. The child marriage is opposed to the traditions of western civilization, tho an accepted principle in many oriental countries. The social significance of child marriage is partially bound up in a number of physiologic problems and may in part be interpreted in terms of the physical well-being of parents and of children.

Studies made by the United States Children's Bureau in Baltimore show a higher infant mortality rate for children born of mothers under the age of 20 years than for those of ages 20 to 25 years. This in itself is not definite evidence against early child marriage. It may be linked up with various other social, educational and climatic factors. Physiologically, child-bearing is the result of maturation but it is doubtful whether from a biologic standpoint child-bearing is favorable before full adolescence has occurred, and bodily development has reached its maximum. Even from this point of view it is impossible to generalize concerning the age most favorable to child-birth. This scientific point of view, however, is outside of the general attitudes and sentiments of the community regarding child marriages. Certainly there are variations in the age of puberty in different sections of the country, variations extending from 10 to 17 years for girls and 11 to 16 years of age for boys. On the basis of evidence thus far secured there is physiologic reason for discouraging the marriage of girls under 16, tho probably 18 years might be safer, and against marriage of boys under 20 years of age.

Physical and mental immaturity involved in child marriages constitutes factors warranting consideration from the social as well as from the eugenic standpoint. The mere fact of parental consent being given does not serve to excuse the existence of child marriages. Romantic ideas, ease in securing a marriage license and the willingness of civil and religious authorities to consummate the marriage create a situation which impetuous adolescence finds to its advantage. A large proportion of child marriages are characterized by a hastiness which at times only borders upon abduction. Frequently there is an anti-social motive, tho personally protective, such as an early marriage to evade the requirements of the compulsory education law, to escape detention in an institution for mental defectives, or to avoid punishment for disorderly conduct. Another unfortunate element occurs in the linkage of the early marriage to immorality and forced prostitution, or the release of a man from prosecution for rape. In a large proportion of child marriages there is evidenced marked evasion of the rites as well as the rights of the individuals. In many instances a married pair never establish a home or are separated within a short period of time, or annulments and divorces serve to undo what should have never occurred.

The instability of marriage relations is provoking considerable attention and our marriage laws are subject to numerous criticisms, and marriage reform is not a question that is of interest only to lawyers and clergymen. The proper legislation relating to marriage and its adequate enforcements concerns society as a whole, and should not be overlooked by physicians, particularly those interested in child welfare or in the solution of the problems of adolescence or the restoration of neurotic and psychotic persons. There is need for the accumulation of a larger body of facts in biology, physiology and psychology, in order that our laws may be more intelligently drawn. They are needed to establish that body of information essential for the development of an intelligent public opinion and sentiment concerning the age of marriage, the proofs of age and the penalties for violation of various laws dealing with marriage. The social factors involved in occupation and economic status, the exploitation of childhood, the inadequate familial standards as well as the relation of child marriages to boarding out systems and orphan asylums, to depleted health, infant and maternal mortality, merit careful inquiry.

The marriage license represents more than a civil contract. It should be the evidence of social approval upon the marriageability of those possessing it. It represents authority for legalized procreation, even tho no children are born. It should, in a sense, signify the physical and mental health of the contracting parties and thus serve as a social guaranty of fitness to contribute to the racial stock. Allied with the single problem of child marriage one finds a vast number of medical questions which cannot be answered accurately in the light of present information. Questions concerning venereal disease, fecundity and sterility, infant and maternal morality, accidents of pregnancy and childbirth, merit the thought of obstetricians and pediatricians. There are numerous problems involving emotional stability and social adjustment that call for the attention of the psychiatrist.

The solemnization of a marriage is a fact recognized in vital statistics, and the value of the recorded fact is intensified thru its interpretation in terms of correlated items, many of which can only be provided by the medical profession. The physician need not be disturbed any more than another citizen by reason of the existence of child marriages, but he should bring to bear his knowledge and experience in order to secure a better understanding of their meaning, their personal effects and their influence upon social vitality.—(Am. Med., May, 1925.)

### The Doctor in Industrial Medicine

Edward F. Glaser, of San Francisco, says the doctor who merely accepts employment to render emergency services in cases of accident, and often to protect the interests of the employers as to claims, is not an industrial physician in the truest sense. This type was the old-time doctor who was primarily a first-aid man. It was this class of medical men who earned the stigma of the "company doctor" and did not command the respect of either the employers the employes, or of his professional colleagues. This type, while we may always have some of them with us, still is gradually growing less, and the industrial surgeon forging forward to the foremost rank of the profession, is honorable and is honored and is rich in opportunities for human service.

Industrial medicine is not simply a field for the ordinary practice of general medicine and surgery. It is a development which, in its broader sense, takes in preventive medicine (sanitation in prevention of disease, control measures for communicable disease, safety first for prevention of accidents)—it takes in the rehabilitation of the injured man, the restoration as nearly as possible to his former place in the economic world. It must consider the means for better health and contentment of the workers, means for increased production and decreased labor turnover. The industrial surgeon of today believes in and advocates physical examination of all applicants for work and the keeping of exact records of these examinations. This examination if done with the proper thoroughness, is of great value to both employer and employee. The industrial physician comes into intimate contact with almost every branch of the industry, not only with the required medicine and surgery, but with the safety and welfare departments, and should with the employment office. But on the other hand physicians and employers must realize that industrial medicine is, in a measure, a compromise between the ideals of medicine and the necessities of business. Physicians have reluctance in accepting the materialistic viewpoints of employers, and conversely have difficulty in persuading employers to accept their professional points of view. In approaching the compromise, the fact should not be overlooked that medical service in the industries, to be of the greatest possible usefulness, must benefit primarily the working people and then the benefit to industry naturally follows and the industrial surgeon justifies his existence. But we must recognize that industry exists, not primarily for ideals, but for the production of an output for a profit.

Industrial medicine has an active business side requiring organization. The corporations and insurance companies must have an income and are often concerned in that more than in the patient or his efficiency. They must think of getting the injured man back as quickly as possible and with the least possible expense. Of necessity, they must continue organizing and concentrating, learning to give humane consideration, as they find it pays. Organizations that have grown up must make terms to deal with the small employer, with the result that, in having to give much service, it must make the good doctor work too cheaply or must employ doctors lacking in experience and, therefore, cheap in price.

There is a struggle on now to prevent industrial medicine becoming an industry rather than a science. Where the cold commercial side is considered and emphasized doctors with ideals do not care to go into it, or if they do, they find soon they

cannot express themselves. They must put one side, ideals, for money consideration in the creating of efficiency of business rather than that of science. As a rule, the doctor has no business training and cannot compete in the world of business as in the world of science. Unfortunately, sometimes the doctor's ideals of giving humane service are changed by the pressure of commercialism and by our social system. He desires to meet the standards of his neighbors—must have an automobile, play golf, and have membership in clubs.

The business manager for doctors is a somewhat abhorrent idea. It seems the last word in commercializing the profession. Advance in medical science has been along the humane, and not the commercial line, and the great things in medicine have been done by individuals with a purpose. Still, the American people are running wild over organization. William Allen White said that if two Americans fell out of a balloon they would form some sort of a group before reaching the ground. In groups, too often, one or two big men who are outstanding are used for advertising purposes and then many small men to fill up. In groups there are always some men who have made their reputations outside the group and with their reputations bring up the group standard. The group argument to employers may include more scientific service, but always does include cheaper medical service and saving of money. It has to be recognized that the financial prospects in industrial medicine are not always alluring. However, it is far better to have a fixed income under workmen's compensation than to have to send bills to injured and out-of-work employees who are unable to pay. The charging of the cost to industry, either directly or through insurance, is so sound that some of us wonder why it wasn't seriously thought of long before a short decade ago. The discerning doctor would strongly oppose a return to the old way of doing business. He recognizes that whatever benefits society places him, in the long run, in a position where he is the gainer.

Another factor is giving emphasis to the doctors' status in industrial medicine came out of the World War. Surgery for war wounds and surgery for peace wounds are not dissimilar—in fact, their genesis is the same. The quick attention, the instant use of the surgeon's instruments—these and other responses to urgent needs become reflected in fewer casualties and more repaired human beings. It has been recognized that the more specialized the treatment, the more dependable the outcome. This naturally followed the experience that can only come from doing the same class of work over and over and meeting the exigencies of such work.

So out of the horrors of war has come an appreciation of the relationship of war and peace in destroying or marring human beings. The purpose to restore one group to efficiency in order to fight can be followed to an even better end by planning to place the second group back into employment to resume their positions.

There can be no finer contribution to society than speedily to return to their occupations those who, unfortunately are overtaken by industrial catastrophes. This gives the industrial doctor a unique status. If he is big enough to grasp his opportunities and follow the gleam, he will have the real satisfaction that follows work well done.

There are several outstanding factors or essentials that apply to the doctor in industrial medicine.

First—He must know his business. Absence of ability, of technical knowledge and failure to have learned from experience, leave behind in their wake too many losses that cannot be overlooked. This is especially so in industry, because society has laid down well-defined obligations for the treatment and care of injured workers, and the personal relation of doctor and patient has added to it a state dictum that is mandatory in character.

Second—The doctor in industrial medicine needs a human understanding, a healthy outlook on his fellow-citizens. He should realize his position is more than the one generally assumed between doctor and patient. He should realize the importance of winning men by fair treatment, by taking them into his confidence, so far as is possible, and by instilling into them self-reliance and respect for themselves.

Third—Care must be taken to eliminate the least taint of the charity idea in connection with surgical and medical treatment. Industry pays the bills, including the doctors' bills but the hurt men make the painfully definite contributions of arms and legs and eyes and sometimes of life itself. The doctor must avoid any appearance of indifference or superiority to these generally super-sensitive patients. The injured man deserves a certain uniform courtesy, and he is sensitive to sympathy, which is valuable if of the wholesome type.

Fourth—The doctor in industrial medicine needs to keep up with the best in his profession, to find out the superior practices of others and to willingly give whatever may prove of gain in securing the great purpose of repairing the injured. He must be a student of prevention of disease and a follower of safety

first in order to aid in the prevention of accidents.

The final test of an industrial surgeon is the value of the service he renders.—(*Cal. & West. Medicine*, July, 1925.)

### How to Choose a Vacation

Some people look upon a vacation as a time to rest and do absolutely nothing; but the dictionary says it is the cessation from one's ordinary occupation. The more completely a man abandons his usual duties and turns to entirely different forms of activity, the more good his vacation will do him. A long, cross-country hike would not be a very satisfactory vacation for a mail-carrier.

When a man's regular work calls for much mental effort, and he spends most of his time seated at a desk, he needs to put in a few weeks each summer living out of doors and engaging in reasonably active physical pursuits. Some men start out after eleven months in a swivel-chair and a limousine, and try to climb mountains for a month. A number of these die of heart-failure, and many more come home physically exhausted and have to spend a week in recuperating from their vacation.

If a man's daily duties require heavy physical labor, his vacation should consist of physical rest, together with some mental activity, or of quiet sports. For such a man a sea voyage is excellent; or he may go on a fishing trip in a locality which does not require too much exertion to reach. If he is studiously inclined, he can have a beautiful month in a hammock, with plenty of books.

If your work keeps you constantly among people, take your vacation alone; and if you earn your bread by lonely labor, get out and mingle with your kind. The former kind of worker will be refreshed and strengthened by a month in the north woods, far from the haunts of men; while the latter will get the fillip which his solitary soul requires from a period at some lively summer-resort.

The housewife should spend her vacation at a hotel, where she will not have to give a thought to preparing meals or making beds. The farmer should go to the city for change and recreation; and the city man to the country.

These, then, are the rules to use in choosing one's vacation:

1. Do the thing you *want* to do, but for which you have no time during your working months.
2. Make vacation activities as different as possible, in every way, from those of your daily work.
3. Be moderate. Remember, the athlete goes into training before he "does his stuff."
4. Plan your vacation within your means, so that it will not be spoiled by financial worries.
5. Cut loose entirely from your work and *forget it*.—(*Chemical Medicine*.)

### How to Prolong Life

During the campaign for the 44-hour week, members of the I. T. U. made the claim that the reduction of the 48-hour week to 44 hours would prolong the life of a printer nine years. Since that time, others have been busy on this life lengthening problem, with the following result:

- Work 44 hours at 48 hours' pay, and gain 19 years.
- Work 40 hours at 48 hours' pay, and gain 18 years.
- Work 36 hours at 48 hours' pay, and gain 27 years.
- Work 32 hours at 48 hours' pay, and gain 36 years.
- Work 28 hours at 48 hours' pay, and gain 45 years.
- Work 24 hours at 48 hours' pay, and gain 54 years.
- Work 20 hours at 48 hours' pay, and gain 63 years.
- Work 16 hours at 48 hours' pay, and gain 72 years.
- Work 12 hours at 48 hours' pay, and gain 81 years.
- Work 8 hours at 48 hours' pay, and gain 90 years.
- Work 4 hours at 48 hours' pay, and gain 99 years.
- Work no hours at 48 hours' pay, and live forever.

By following out this line of reasoning, one cannot but think that the sole reason for a printer dying is that some time in his early youth he was indiscreet enough to work.—*Employing Printers of America*.

### Get This Bulletin, Doctor

A bulletin just issued by the Bureau of Industrial Hygiene of the New York State Department of Labor is intended to invite the attention of the medical profession in the State of New York to the disease Silicosis, with the hope that it will stimulate discussion of the subject and the exchange of experience and ideas.

The Bureau will be glad to send every interested physician in the State one of these bulletins. Those who are interested can obtain a copy by addressing Dr. Leland E. Cofer, Director, Bureau of Industrial Hygiene, 124 East 28th Street, New York City.

### Health of World Growing Better

The health situation in the United States showed material improvement in March and April and similar betterment is indicated in most countries of the world, according to the Epidemiological Report of the Health Section of the League of Nations Secretariat. Diseases for which increases are reported are the milder ones, such as measles and diphtheria, while smallpox and spinal meningitis are reported as decreasing or remaining stationary.

"The smallpox situation in the United States seems to have begun to improve," says the report. "Three thousand, four hundred and twelve cases were reported in 27 states during the four weeks ending March 28, as against 4,232 cases during the previous four weeks, and 4,997 during the corresponding period of the previous year. It appears thus that the maximum incidence was reached two months earlier than in 1924. The outbreak of highly virulent smallpox in Minneapolis seems to have come to an end; it has lasted seven months and there were 1,182 cases, of which 331 were fatal, giving a total case mortality of 28 per cent. Not a single death from smallpox occurred in Minneapolis during the week ending April 4, but there were a few deaths in eight other cities in widely separated parts of the United States.

"Smallpox is less prevalent in Canada than it was during the early months of 1924, the majority of cases are now occurring in British Columbia.

"Mild smallpox continues to spread in England. No very considerable prevalence of smallpox was reported from any other European country, with the exception of Spain, where a more fatal type of the disease appears to prevail.

"A marked increase in smallpox has developed in India during the last two years. A recrudescence of measles has been observed in March in all countries for which information is available. The increase is smaller than at the corresponding season of 1924 in Great Britain and Denmark, but greater in France, in Hungary, in Poland and in Italy.

"Although more cases of measles were reported in the United States in March than during the preceding months, their number was only one-fourth of that reported during the corresponding month of 1924.

"Diphtheria remains also somewhat more prevalent in most of Western and Central Europe than during the early months of 1924. In England and Wales, 15,406 cases were reported during the first 16 weeks of 1925 as against 11,396 during the corresponding period of 1924; the number of cases is about equal to those reported in 1923, but lower than those for the corresponding period of 1922. Similar fluctuations are shown in the returns for the Scandinavian countries, the Netherlands and Germany. The incidence is relatively low in Eastern and South-eastern Europe.

"The incidence of diphtheria continues to diminish in the United States, where 4,513 cases were reported in 27 states during the four weeks ending March 28, as against 5,125 cases during the preceding four weeks and 6,229 during the corresponding period of 1924.

The comparatively low incidence of influenza in most countries during the first period of 1925 is reflected in the general death rate, which is more favorable than that of the early months of 1924. The general mortality in German cities has been lower than for any preceding winter half-year. The number of deaths from influenza in English cities has diminished since the beginning of March and only 100 deaths were attributed to this cause during the week ending May 2. Influenza mortality increased in German cities at the beginning of April, but reached less than one-half the height it attained in English towns six weeks earlier.

"There has been an increase in March and April in influenza cases reported in Denmark and Sweden, but the figures are nevertheless lower than those for preceding years. More cases were reported in February and March in the United States than during the corresponding months of 1923, but no serious epidemic has occurred.

"The incidence of typhus remains unusually low throughout Eastern Europe; the maximum appears to have occurred early in the year, as is frequently the case when the prevalence is diminishing rapidly.

### A Correction of Misstatements About the Life Extension Institute

Reports have been circulated in medical circles to the effect that the Life Extension Institute buys examination reports from physicians and then sells the information received to insurance companies for higher fees.

The facts are these: The Life Extension Institute contracts with insurance companies for service to policyholders. This service includes a medical examination for which a fee is paid to the physician. The remainder of the fee received from the insurance company is used to pay for the other phases of health education service rendered to policyholders.

It has been further stated that the information obtained from examinations is communicated to insurance companies. This is untrue. In the contracts which the Institute has with forty-five insurance companies it is expressly understood that the Institute's examination shall be held as strictly confidential by the Institute and shall not be reported to the insurance companies. This understanding has been faithfully carried out by the Life Extension Institute.

The Life Extension Institute began examinations of Metropolitan Life Insurance Company policyholders in 1914. The Metropolitan was the first Company to contract with the Institute for periodic examinations. As the entire matter was experimental, in the beginning the reports of examinations were sent to the Metropolitan to enable it to determine the character and kind of examinations which the Institute was making. As soon as the Metropolitan was convinced that the examinations were satisfactory, the forwarding of reports by the Institute to the Company was abandoned.

Later two statistical studies were made by the Metropolitan Life Insurance Company: one in 1921 of the records of six thousand policyholders, and the other in 1923 of the records of seventeen thousand policyholders. In the first study, the original records were sent to the Metropolitan. In the second study, the Institute sent the Company abstracts of its records, in which the names and addresses of policyholders were omitted. In neither study did the insurance company make use of the records other than for statistical purposes.

Over two hundred thousand Metropolitan Life Insurance Company policyholders have been examined by the Life Extension Institute. The studies indicate that there has been a better mortality in this group than among those not examined. The following letter from the Metropolitan Life Insurance Company tells its own story:

DR. EUGENE L. FISK, *Medical Director,*  
Life Extension Institute.

Dear Dr. Fisk:

I have read the above memorandum. It is correct in every respect. The studies which we made convinced us of the desirability of offering periodic medical examinations to our policyholders. The records which you sent us were at no time and in no wise used by us except for statistical purposes. The agreement which we have with you, under which examinations of our policyholders should be held strictly confidential by you, has been respected and carried out faithfully by both parties to the agreement.

AUGUSTUS S. KNIGHT, *Medical Director,*  
Metropolitan Life Insurance Co.

### Fourth of July, Deaths

Killed, 111; injured, 1,030; mostly children—such is the casualty list resulting from the use of fireworks during this year's celebration of the Fourth of July, it is revealed in a joint statement issued here today by the American Museum of Safety and the National Committee for the Prevention of Blindness, following an analysis of reports from 500 cities in 36 states. Of the injured 148 probably will lose the sight of one or both eyes, 79 have been disfigured through the loss of an arm, leg, or fingers or through other mutilation 2 have lost their hearing, and one the power of speech.

In the reports of more than a thousand firework casualties there is evidence of only 62 arrests. Approximately 800 of the casualties occurred on July 4, more than 200 taking place before and after Independence Day, some as early as June 24 and as late as July 23. Only 30 of the casualties occurred in connection with public celebrations.

Of the 111 persons who lost their lives in the celebration of Independence Day, 37, mostly children, were burned to death when their clothing was ignited by so-called harmless sparklers, other fireworks, and bonfires; 25 deaths were caused by lockjaw following burns from blank cartridges, cap pistols, firecrackers, and gun shot wounds; 19 persons were literally blown to pieces by premature and accidental explosions; 8 persons were shot to death; 22 died as the result of accidents involving torpedoes, sky-rockets, Roman candles and ordinary firecrackers; 6 of the latter included very young children who were poisoned by eating firecrackers.

The largest list of casualties was received from St. Louis, where 73 persons were seriously injured and 60 suffered minor injuries. The report says, however, that this is undoubtedly due to the fact that St. Louis was more thorough in reporting Fourth of July casualties than other cities. Unusually heavy casualty lists were received from a number of comparatively small towns in Pennsylvania; Pottsville, for instance, reported 21 casualties; Scranton, 13; Lock Haven, 12; Altoona, 12. Detroit reported 27 casualties; Bayonne, N. J., 19; Hartford, Conn. 17; Chicago, 16; Elmira, N. Y., 11; New York City, 10; Water-

bury, Conn., 9; Wheeling, W. Va., 8; Kansas City, and Butte, Montana, 7 each; Hibbing, Minn., and Spokane, Wash., 6 each; Cleveland and Denver, 5 each; Los Angeles and San Francisco, 4 each; Dallas, Providence, and Philadelphia, 3 each.

The statement which was signed jointly by Arthur Williams, President of the American Museum of Safety, and Lewis H. Carris, Managing Director of the National Committee for the Prevention of Blindness, said: "The total of 111 fatalities and of more than a thousand other casualties reported in this study represents only a part of the actual sacrifice of human life and limb which takes place annually in the United States during the month of July; no reports were received from twelve states, including many in the South where few restrictions are placed on the sale and use of fireworks. Were it possible to secure a complete record of Fourth of July casualties it would probably be found that several hundred persons were killed and several thousands injured in this year's celebration. If a record had been kept of the casualties resulting from the use of fireworks since 1776 it would undoubtedly be found that more persons have been killed and injured during celebrations commemorating our Independence Day than were killed and injured during the Revolutionary War.

"The fact that in New York City among a population of more than six million there were only ten casualties and that in Chicago among a population of more than three million there were only sixteen casualties, is convincing evidence of the effectiveness of restrictive legislation, properly enforced. Most of the casualties reported in this study occurred in the smaller cities where fireworks are still being sold to children of any age not only during the Fourth of July but long before and after. The obvious remedy is the enactment and enforcement of legislation restricting the sale of fireworks to adults, together with a greater discrimination on the part of parents in the distribution of fireworks among children and far more supervision of the use that children make of fireworks."

### The "Finicky" Appetite

Dr. D. A. Thom, of the U. S. Department of Labor, says that dainty serving of food goes a long way in arousing appetite. A small table and china "all his own" or being allowed to sit in mother's place at the table may have a great appeal. Let the child know that when he learns to feed himself in a quiet, efficient manner he may then come to the table with the "grown-ups." This may give him incentive to strive for perfection. Occasionally consult the child's preference about his food, but never let him feel he is free to dictate as to what he will and will not eat. Teach him that certain foods are required if he is to grow big and strong and rugged like the "Daddy" he adores. Do not insist on pushing him; lead him once in a while. Little harm will result from his missing a meal now and then. There are times when food is repulsive to children for no apparent reason. There are other occasions when their mood is such that they enjoy arousing anxiety, worry, and solicitude in the parent. You will find when this is the case and the child says he does not want any lunch that it is wise to reply that it is quite all right and if he is not hungry he may run out to play. You have thus removed every resistance which he hoped to battle against, and if this is just an emotional attitude it is unlikely that he will take any chances on missing a meal in the future.

Remember that children are quick to copy and if, for instance, grandma is on a limited diet and can not eat this or that, or if father frankly emphasizes his likes and dislikes, the child is apt to become finicky and notional in his eating. The child who early learns to eat with a good appetite whatever is set before him will be saved much discomfort and embarrassment in later life.

Of course, the child should have plain, nourishing, easily digested food that is well cooked and served in small quantities. Regularity in serving meals is of great importance, not only for physiological reasons, such as keeping the intake of food evenly regulated in order that the digestive apparatus may work smoothly, but for other reasons as well. Obviously, if a child learns that food is available at any hour of the day he will not be greatly concerned in eating at any definite time. It should be understood by the children and strictly adhered to by the parent that if the youngster does not eat at the allotted hour he gets nothing until the following meal. Care must be taken, however, that he is not fed between meals by other members of the family or supplied with pennies with which he can buy sweets to appease his hunger during the interval. The child should not be hurried during the meal, nor should he be given sufficient time to play and dabble with his food. The ordinary meal for a child should not require over 30 minutes at the most. If by that time he has not finished remove the food without any comment.

## Medical Happenings

### Medical Society of the Missouri Valley at St. Joseph

Plans have matured for the annual meeting of the Medical Society of the Missouri Valley, in St. Joseph, September 30-October 1 and 2, 1925, under the presidency of Dr. J. W. Martin, of Des Moines, Iowa. The St. Joseph Clinical Society will hold a two-days session at the various hospitals on Monday and Tuesday preceding the meeting. The sessions will be held in the Crystal room of Hotel Robidoux and the exhibits will occupy both the office lobby and the mezzanine balcony.

Diagnostic clinics will occupy the morning hours, while a series of symposia, contributed by the various state universities, will fill the afternoons. The annual dinner will be given at the Robidoux on Thursday evening when speakers of national prominence will be present. A "get together" smoker will be held on Wednesday evening, when the members will be the guests of the Buchanan County Medical Society and the St. Joseph Clinical Society.

The program will be:

### University of Nebraska, Medical College

1. "Complications of Brain Surgery"—Dr. J. J. Keegan, Dean of Univ. Coll. of Medicine.
2. "The Technique of Cervical Sympathectomy" (Illustrated)—Dr. John Summers, Professor of Surgery.
3. (Title not yet received)—Dr. W. O. Bridges.
4. "Study of a Case Membranous Bone, with Autopsy" (Slide)—Dr. A. D. Dunn, Professor of Experimental Medicine.
5. "Cancer"—Dr. H. E. Eggers, Professor of Pathology.

### Kansas University, Medical Department

1. "Relation of Food Infection to Myocardial Degeneration"—Dr. P. T. Bohan, Professor of Clinical Medicine.
2. "The Present Status of Hypertension"—Dr. R. H. Major, Professor of Medicine.
3. "Kidney Function Test"—Dr. N. F. Ockerblad, Assistant Professor of Genito-Urinary Diseases.

### University of Missouri, Columbia Symposiums on Internal Secretions

1. "Oxygen Supply and Metabolic Level"—Chas. W. Greene, Ph.D., Columbia, Mo.
2. "Factors Affecting the Action of the Pancreatic Hormone"—Max. M. Ellis, Ph.D., Columbia, Mo.
3. "Internal Secretion of Ovaries"—Edgar Allen, Ph.D., Columbia, Mo.
4. "Thyroid and Metabolic Perversions"—Dr. Walter M. Boothby, Mayo Foundation, Rochester, Minn.

1. "The Periodic Medical Meeting"—Dr. E. H. Skinner, Kansas City.

### Attending Staff, Washington Boulevard Hospital, Chicago, Ill.

1. "Urological Findings in 100 Cases of Obscure Abdominal and Pelvic Pain"—Dr. V. J. O'Connor.
2. "X-Ray Interpretations"—Dr. A. R. Metz.
3. "Electro-cardiograph Interpretations"—Dr. S. R. Slaymaker.
4. "Fracture of Femurs With Special Reference to Neck"—Dr. H. F. Lounsbury.
5. "Angina Pectoris"—Dr. Robt. H. Babcock.

### Des Moines, Iowa

1. "Heredity"—Dr. Julius S. Weingart.
2. "Group of Papers on Anesthesia"—Dr. John Russell and Dr. John Connell.
3. "Goitre Clinic"—Dr. Charles Ryan.
4. "Clinic on Dermatology"—Dr. J. F. Auner.
5. (Not received)—Dr. W. O. King.

### Symposium on Fractures

1. "Conservative Treatment of Fractures of Long Bones in Children"—Dr. Thos. Orr, Kansas City.
2. "Fracture of the Carpal Bones"—Dr. P. A. Bendixen, Davenport.
3. "Fracture of Elbow"—Dr. J. A. Weinberg, Omaha, Neb.
4. "General Discussion of the Fracture Problem"—Dr. D. Z. Dunnett, Baltimore, Md.

Mornings—Dry Clinics by St. Joseph Clinicians.

Afternoons—Symposia.

Complete program will be issued early next month. A copy may be obtained by addressing the secretary, Dr. Chas. Wood Fassett, 115 E. 31st Street, Kansas City, Mo.

### Expect Twenty Colleges at Chemical Exposition

About twenty leading American colleges and universities have filed applications for their students of chemistry and chemical engineering to take the one week course of intensive training in practical technique of chemical engineering to be held in conjunction with the Tenth Exposition of Chemical Industries at the Grand Central Palace, New York, during the Week of Sept. 28th to October 3rd. More than three hundred students are expected to enroll before the closing date. All students of recognized colleges, as well as practicing chemical engineers, who desire to brush up on fundamentals, are eligible to take the course which is without cost.

A program of lectures for the course for students is now being made up and will be announced at an early date. Some of the leading authorities on engineering methods, materials and equipment will be among the speakers. Lectures will be held during the morning hours at the Grand Central Palace prior to the official opening of the Exposition each day. Tours among the exhibits for practical demonstrations will also be conducted for the students. Examinations will be held at the close of the course as a number of colleges have designated their intentions of giving their students credit toward their degrees for work done at the Chemical Exposition. Prof. W. T. Read of the Chemistry Department of Yale University, is in charge of the course.

### American Board of Otolaryngology

An examination was held by the American Board of Otolaryngology on May 26, 1925, at the Medico-Chirurgical Hospital, Philadelphia, with the following results:

Passed .....	137
Failed .....	20
Total Examined .....	157

The next examination will be held at the University of Illinois School of Medicine on October 19, 1925. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

### Annual Meeting of American Academy of Physiotherapy

The American Academy of Physiotherapy will hold its next annual meeting, to be held October 15th to 17th, 1925, in the Copley Plaza Hotel, Boston. Clinical demonstrations in physio-therapeutic technique, including electrosurgery, will be given in the Boston City Hospital. All members of the profession are cordially invited to attend this Convention.

Among the subjects to be presented and those who are expected to participate in the program are: Electrophysics, by Prof. Duane of Harvard; Treatment of Sprains, by Dr. Charles P. Hutchins; The Curative Workshop, by Dr. Fred H. Albee; Electrosurgery, by Drs. Wm. D. McFee, Wm. L. Clark and Grant E. Ward; Galvanism in Neurology, by Dr. James MacPhee; The Aftercare of Fractures, by Dr. Harry Eaton Stewart; Hydrotherapy, by Dr. Robert E. Peck; Taking Things for Granted, by Dr. Burton B. Grover; Intestinal Stasis and Toxemia, by Dr. Wm. Seaman Bainbridge and Sir William Arbuthnot Lane, Bart.; Application of Clear Quartz to Physiotherapy by Dr. E. R. Berry; Indications for the Use of X-ray in the Treatment of Breast Tumors, by Dr. Walter C. Barker; Some Reasons for the Delay of the Corelation of Physiotherapy with General Medicine and Surgery and the Specialties, by Dr. Charles F. Stokes; The Rationale of Fraction X-radiation Therapy, by Dr. J. Douglas Morgan, etc.

The program is not completed and the official program will be mailed upon request after September 1 by application to Dr. B. P. Price, 43 E. 53rd Street, New York City.

### Correspondence Course for the Medical Reserve Corps

In a recent issue of the New York *Herald-Tribune* appeared an interesting article, entitled "Modern Warfare Taught by Mail", which shows the extraordinary efforts made by the War Department to impart to reserve officers in every branch of the service at least the rudiments—the practical knowledge which they may supplement by work in the training-camps.

I wish to speak for the medical department, which I feel I can do ex cathedra, having completed and passed examinations in both the elementary and advanced courses. To me, an old chap, who still preserves the enthusiasms, if not the hopes and illusions, of youth, the work has been most illuminating, as it has shown to me how much the W. D. (as especially the S. G. O.) is doing to improve its former crude efforts.

I criticised rather severely the so-called "Correspondence Course" which some of us took before the war, but I take it all back. It taught me to master the Army Regulations and Manual of the Medical Department, so that on at least two occasions, as a humble (and exceedingly cheeky) Major, I was able to retaliate on Major Generals, when reproved for alleged breach

## The Physician's Library

**How to Live.** By Prof. Irving Fisher, Yale University, and Dr. Eugene Lyman Fisk, in Collaboration with the Hygiene Reference Board of the Life Extension Institute. Cloth. 541 pages. New York: Funk & Wagnalls Co., 1925.

This edition has been completely revised, rewritten, reset, and greatly enlarged. New illustrations and diagrams have been added and healthful physical exercises included, making it virtually a new work.

Since the first edition appeared in 1915, the book has been America's foremost work on health and hygiene. Among the new topics discussed in this edition are: Acids and inorganic salts in foods; adenoids; lessons of the army draft examinations; birth control; bodily resistance to disease; danger of retaining body wastes; lethal effects of bootleg liquor; causes of breakdown; effect of canning on vitamin content; control of communicable diseases; segregation of defectives; economy of hygiene; increase in expectation of life; experiments on diet and endurance; types of fat-forming food; effects of fear; feeble-mindedness an inherited trait; flesh-eating and endurance; hysteria; infant mortality; inheritable traits; lacto-vegetarian diet; future possibilities in life-saving; cleanliness to avoid lock-jaw; love-marriages; causes of old age; possible effect of alcohol on progeny; purgatives to be avoided; power of suggestion; ideal weight for women; lessons from the World War on meat consumption; etc.

**Bath Pistany—Its Springs and its Importance.** By Ladislaus Schmidt, M. D. Vienna: M. Perles, 1925.

This little book gives a very thorough and interesting survey of the medical factors of the Czechoslovakian health resort, Bath Pistany.

The author cites the opinions of well known medical authorities concerning Pistany's volcanic mineral mud which, as he states, has been used for centuries for the treatment of rheumatic ailments. He also gives a very interesting historical survey, constructed from documents starting in the sixteenth century, of the evolution of the treatments with the Pistany mud from the time when these treatments were given by digging holes in the mud and immersing patients in them, up to the methods of the present time.

The main part of the book contains a scientific treatise on the Pistany mud itself, special sections being devoted to its radioactivity. Furthermore, a thorough discussion is made of the ailments treated by means of this thermal agent and the actual form of the treatments as given in Pistany. The author lays special emphasis on the fact that while different kinds of treatments come to the surface from time to time and are replaced by others in a short while, the Pistany mud treatment has had a continuous and rapid growth as to its use, and the lapse of time has affected it only in contributing to the perfection of the minutest detail.

The discussion of the indicated ailments and their treatments is very enlightening. The author gives an account of the various ailments which are treated at the Spa, such as the many varieties of arthritis, as well as neuritis, neuralgia, lumbago, sciatica etc. On the other hand, he does not fail to mention the symptoms which are contra-indicative of these treatments. At this point an interesting statement, contrary to popular belief, is made, namely that weak heart and high blood pressure are not in the least symptoms which should deter the physician from advising his patient to take the treatment.

This book was received with great interest in European medical circles and it should interest many physicians in this country, too.

of duty, and took a malicious pleasure in calling their attention to paragraphs in the Regulations which supported me in my position. They had grown rusty, while I, a greenhorn, was primed with book-learning.

It has been the great privilege of Medical Reserve Officers in this Second Corps area to have as their instructor that genial gentleman of the old school, Colonel Duvol, who has shown infinite patience in looking over and commenting upon our crude efforts. I have asked him how he had the nerve to give me such good marks, but he did.

Both courses were fine. After completing the primary one on the medical regiment I felt fully competent to be the C. O. of one in the field, and after toiling through the advance course I entertained no doubts that it would be child's play for me to be a corps or army surgeon in time of war. It is great to have confidence in oneself, even if it is misplaced.

I can only say to my confrères in the Medical Reserve Corps who did not take the courses: "You missed it. Try them next year and you will find that it pays".

HENRY C. COE.

# The Medical Times

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**Prohibition and Narcotics**

The Foreign Policy Association has collected a large amount of data going to show that the use of narcotics has not increased since the Volstead act was passed.

A steady decrease in the number of addicts in the United States has been noted since 1900, in other words, before prohibition was enacted. There are now only 150,000.

There is no reason why prohibition should cause great numbers of people to change from alcohol to narcotics, as has been frequently alleged. There can be not much doubt that they would were alcohol actually unobtainable.

The leading authorities are agreed that there is no connection between drug using and prohibition. "Prohibition has had no effect whatsoever on the prevalence of drug addiction in the United States."

Why should persons of defective nervous organization whose discomforts are sufficiently assuaged by alcohol change to more expensive, less available and unnecessary potent drugs of the narcotic order? Those who require the latter are in a class by themselves and would obtain no relief from alcohol.

So long as the users of alcohol are not deprived of it there will be no danger of prohibition increasing the consumption of narcotics of the major type.

The New York State Department of Health reports eleven times the number of deaths from alcoholism in New York State in May of this year than in May, 1920 (7 in 1920 and 79 in 1925 during that month). "The continued rise in mortality from alcoholism deserves special mention," says the report. "Statistics of mortality from alcoholism are quite incomplete. Since alcoholism has never been considered a respectable cause of death,

the figures quoted above without doubt do not represent all of these deaths, a portion of them being hidden under other rubrics. The actual facts are very likely even darker."

The report also shows that the deaths from alcoholism in New York City and State were decreasing before prohibition, but have been steadily increasing since 1920, so that in 1924 they were much more numerous than in 1918 and 1919.

So long as alcohol is as freely available as the foregoing facts would seem to show we may look for a continuation, even if slow, decrease in the use of the more powerful narcotic drugs.

**One Kind of Evolution**

The course of sanitation, as outlined by Pierre Van Paassen in his "World's Window," has been slow and the point reached by present progress simply marvelous. In the case of the Puritan-Calvinist Dutch it was good hygienic form to wash one's hands frequently, one's feet very seldom, one's head never. The washing of his feet was so extraordinary an event in the life of Pepys that he marked it down in his diary as having occurred on May 30, 1663. A great event in 1649 was the coming to Paris of a Russian Prince to have his teeth cleaned. The Kings of France had no bathrooms or wash tables and seldom washed at all. During the Middle Ages everybody in Europe was lousy. In 1780 a student in the theological school of Leipzig University was not allowed to pass his examinations for the doctor's degree because of his modernism, which consisted in washing his whole body; it was whispered that the miscreant actually took baths. A Belgian medical authority, in the eighteenth century, advised that if bathing is too difficult an undertaking people ought to put on clean linen at least once every six weeks.

It will be seen from the foregoing that we are in an advanced state of sanitary evolution to-day and that there is no reason for pessimism regarding the matter of public hygiene.

**Bulls In China Shops**

One frequently encounters, in textbooks and in the current literature, directions as to the "plunging" of needles, trochars and knives into various structures in the course of clinical procedures. It is bad teaching. Plunging is a violent word to use, for nearly always such a mode of introduction is not indicated nor actually practised. A plunge implies a headlong rush or the sudden use of undue force, and sensible practitioners are not given to such behavior in the regular performance of their tasks. Such teaching is particularly pernicious in the case of medical students. We suppose that the old-time dentist may have "pulled" teeth, but the modern artist in extraction "draws" them with charming ease and grace. When next we enter a vein let us try to forget this word plunge, with its bad psychologic and clinical connotations. The plunging approach is an anachronism.

**The Criminal A Sick Man**

It is now known that about three-fourths of prisoners in jail are really invalids, from psychiatric and physical standpoints. This is revealed quite clearly in the Wicker-sham report on the mentality of criminals.

The moral, of course, is clinics, hospitals, farms and workshops for the three-quarters.

Greene County, New York, is already applying the new penology.

The State would profit economically if penology could be thus rationalized all along the line, since the jails

would then cease to be intensive training schools of crime, turning out their graduates in ever increasing numbers.

We have changed utterly the medieval system of handling the insane. It is wholly anachronistic that we should persist in conducting what are now nothing but universities of crime.

This scientific, unsentimental report brings us a step nearer to the gagging and silencing of those who still hug the avenging god stuff and whose flair for cruelty allies them with the lower orders of criminals themselves. They have needed a "deterring" influence more than the jail population, and they have got it in the shape of the Wickersham report.

#### Sunlight Deficiency

Our concern about the effects of insufficient sunlight (ultraviolet rays) centers chiefly in children, which is proper enough, in view of the fact that the consequences of such insufficiency are much more serious or grievous in the case of children than of adults. Nevertheless, there can be no doubt that a vast proportion of the ills of mature persons is traceable directly or indirectly to sunlight starvation, and more thought should be given to the adult phase of this question than is customary with us. It is true that the effects of the ultraviolet rays upon metabolism and general well being have not long been realized and applied rationally, so that to date it is not surprising that their general and intensive utilization by the public has not yet become a commonplace practice.

During the hottest weather we continue to swathe our skins in clothes which effectually intercept these health-giving rays. Even when opportunities present themselves to give our pallid and devitalized integuments sun baths, our prudery and habits say nay.

What, we wonder, will be the attitude of our watchful smut-hounds when our public health propagandists take up in earnest, as they sooner or later must, this matter of the ultraviolet ration of which "civilized" man is so sedulously and stupidly defrauding himself?

#### The Medical Reserve Corps, U. S. Army

Every doctor in, or out of, the M. R. C. ought to read the June number of the *Military Surgeon* in order to know what advances have been made by the Surgeon General's Office in the theoretical and practical training of the coming generation of the Reserve.

The Medical Regiment alone, organized since the war and such a vast improvement over the old Sanitary Train, was a stroke of genius on the part of the modest, able officer in the S. G. O. whom we happen to know had the brains and vision to work it out.

Read the article by Major McKinney on "Field Exercise of the First Medical Regiment," and go to Carlisle if you can and see for yourself the work that is being done there. The paper by Lt. Col. Rhoads, whom we know as the author of the monograph on "Evacuation," is fascinating to one who has the least interest in medico-military tactics. Not only the wide knowledge of the subject possessed by this well known writer, but his clean and forcible style, will appeal to the imagination of the reader.

Look over the list of training camps in the various corps areas and you will see what a busy summer this has been for those who were fortunate enough to be ordered to active duty. We only wish that the junior officers were more fully represented, for they are the men who need such practical training, which is neither long nor arduous. I do not know any better way in which a doctor could take a fortnight's vacation and

that too at the expense of the Government.

When we recall the crude camps of instruction before the war, at which we paid all our own expenses, it seems as if the present generation were lucky to have this chance. The small group of enthusiasts of those days felt amply repaid for their too brief experiences under canvas and have not forgotten the unselfish devotion of the regular medical officers who instructed them—Gilchrist, Page, it means to be an "officer and a gentleman."

We have never had any sympathy for men who nursed "grouches" after the war, real or fancied, and it is gratifying to note that time has softened, or eliminated, unpleasant memories and that former ex-service officers are beginning to take more interest in the Medical Reserve Corps. You have taken the binding oath of allegiance and served under the flag. The oath still holds and your service is not over.

It is a great thought that in our next emergency the entire man-power of the nation will be mobilized. There will be no hanging back for a forced draft, no looking for soft jobs. We are rather proud of the fact that we mustered 30,000 citizen-medical officers in the Great War and that we made good here and overseas. Why not be as good Americans now as we were then?

You who are apathetic, or even hostile, to the new order of things, learn again the honest pride that we had in wearing the caduceus and reporting for duty on Mobilization Day. With us older men, who are now properly relegated to the "Auxiliary" M. R. C. exists ever the proud thought that when we are finally mustered out we shall be carried to our last resting place under that flag which we have loved and served—soldiers to the end.

Henry C. Coe.

## Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

#### A Regular Airplane Ambulance Service

It is the intention of the Columbia University-Presbyterian Medical Center, now under construction at 168th street and Fort Washington avenue, to include an airplane ambulance service. The area to be covered by the air service will include all of the Metropolitan district, will extend along the New Jersey coast and into Connecticut, and, in emergency, reach fifty miles out to sea.

The roof of the main building of the hospital, 450 by 56 feet, is being constructed to serve as a landing station for the ambulance airplanes.

Dean Sage, president of the Presbyterian Hospital, said that perfection of the helicopter principle may permit the use of a four-acre court in the middle of the Medical Center's grounds also as a landing field.

It is estimated that a patient could be brought to the Medical Center from the end of Staten Island or from Quarantine in fifteen minutes. Emergency cases could be transferred from ship to plane at Quarantine and rushed to the Medical Center.

The ambulances will carry a nurse and doctor, radio, cots, stretchers, first-aid facilities and equipment for emergency operations.—*The Hospital Buyer*, June, 1925.

If it be true that the principle of the rotor ship, lately applied to an English airplane, has enabled it to ascend and descend vertically, the work of the airplane ambulance service will be thus greatly simplified and rendered highly efficient, for the large landing stations would not be needed.—EDITOR.

**Social Hygiene and the Child**  
(Concluded from page 214)

development, and his intelligent curiosity must be satisfied—well or badly.

We all know that a very great number of the social troubles that arise later in life are due to the silence, I would almost say aloofness, of most parents of a past generation—I do not mean only the big tragedies of the divorce court, the police court, and such like, but the smaller and less heard of troubles, such as late marriages, unsuitable marriages, etc. Nor is it sufficient for a father to have a single and isolated talk with his son at the age of fifteen or thereabouts about right living; it is a subject that needs constant teaching from early childhood up to marriage and even after. The result of the parent's realizing his and her responsibility and dealing with the matter early should be twofold: it makes possible a free and frank discussion as occasion arises for the growing boy and girl, and it treats the matter as a family business which should not be chattered about outside the home. The family is the fundamental social unit.

I come now to the second stage of life, from five to twelve. The home still remains the fundamental institution, although the school claims a great deal of the child's time. Habits are still being formed, and happy is the family in which those habits are good ones. In a new book entitled "Smiths of a Better Quality," which is well worth reading, the point is emphasized that it is as easy to train in good habits as in bad.

At this period the boy and girl are meeting other children and being received in other homes. Their own character is being tested by such contact, and they themselves are keen to compare the merits of their own home and others. The gang instinct awakens; the boy must have a group of boys as his chums, and to a less extent, the girl prefers girls. The boy becomes a hero worshipper, and the older people whom he meets—relatives, teachers, etc.—can have very great influence. Let parental education be positive. Avoid the habit of saying "don't" for the time will come when the boy and girl will rightly claim a certain amount of freedom to do as they think best. Let elders, therefore, be truly helpful to children, aiding in enriching the stock of knowledge and in forming tastes and interests and ideals and in fixing right habits of thought and act.

Of special importance is guidance in the use of leisure time and in the formation of proper companionships.

The school can help the home in social hygiene education by its general lessons in health and by lessons in nature study, botany, etc. But the Public School should give no direct teaching in sex hygiene, for this cannot be efficiently done in groups; and it is particularly the task of the home.

We next come to a very important period in the life of the growing boy or girl, say twelve to fourteen. The ages cannot be stated accurately, and are younger in the case of girls. Profound changes are taking place in the bodies and minds of children, but the educator, parent or other, must not make any sudden or complete change of emphasis or method in education. The approach must be different, for the child is becoming a youth.

With the critical bodily changes come profound emotional changes accompanied by sex consciousness. During these and the following years it is very important that parents should be alive to the changes that are taking place, that they should have a sound idea of right companionship for their boys and girls, especially companionship with the opposite sex. I could quote cases

where marriages have been unduly delayed, if not actually prevented by the thoughtlessness of parents who have laughed at their children's love affairs; and I could quote others where a parent's wisdom has steered a son safely through these times of emotion trouble to the haven of an early and happy marriage. This is a period when patience, sympathy, and understanding of parents and older friends are most of all necessary.

The time has now come in the life of the family when the home should be changed to some extent from a place in which every consideration is given to the parents' comfort and happiness to a place in which the adolescent is becoming increasingly important. This is of course difficult, and must be carried through in a quiet unnoticed way. The son and daughter are no longer content to do as they are told, but very naturally begin to question the statements and demands of their parents. It is much more important that the youth should feel that his parents are just and loving than that he should merely think of them as people to be obeyed. The advantage of treating the youth as one with whom a matter can be freely discussed is that the problem under discussion, whatever it may be, can be left an open question. A demand for obedience on the other hand, implies that the speaker is absolutely right.

The interests of the youth should be as wide as possible; he should play all games, read many books, enjoy good music and pictures, devote himself to his hobbies, etc. The youth wants to be manly or womanly, and is embarking on the enterprise of becoming a man or a woman; older friends can do much to inspire youth to a true and full manhood and womanhood.

In all that I have said, I have endeavored to bear in mind its relation with the sex education of the child and youth, a definite matter which cannot be treated fully at this time. If the parent has realized his responsibility and done his duty by early teaching and by continuous teaching as need has arisen, the phenomena of sex will remain in the youth's mind as a matter for respect and wonder and reverence, and not as a subject for vulgar jokes, as is so often the case. The boy and girl, properly educated, will form ideals, will look forward, in a childish way at first, to the duty and happiness of home-making, and will begin to realize his personal and social value as a citizen. The best chance of living an efficient and happy life will belong to the youth who, through the loving guidance of good parents and the co-operation of teachers and others has developed an ethical responsibility, is able reasonably well to choose between right and wrong, not only where his own welfare and happiness are concerned, but also with regard to his relationship to those with whom he most closely comes into contact and to the community at large.

One of the tasks of Social Hygiene, heretofore, is to find the means of giving to children a more scientific and thorough training in how to live than those of past generations have received. I hope I have not laid too much emphasis on my belief that this training shall be given mainly in the home. Parents are already in our land absolved too much from responsibility. I know I may be told that the parent is incapable of administering such training, but I reply that that is true of the teacher also, and that the parents themselves, must be trained to give necessary instruction to their children. This is the particular piece of work to which the Division of Education of the Social Hygiene Council is at present applying itself. It is necessary also that teachers should receive social hygiene instruction in the Normal School, for, as has been said, they are allies of the

parent and in the school are sure from time to time to come up against a social hygiene problem.

In conclusion, let me express the hope that your Society and mine will have many opportunities of working together for the good of the community. After all is said, with all our modern individualism, our determination to lead our own life and develop our own being, we are all Canadians and owe a duty to Canada as such. As our boys fought to keep Canada free, be it ours to help to keep Canada clean and make her great.

#### The Anterior Metatarsal Support

(Concluded from page 216)

the felt and with small tacks fix it strongly around the raised part.

One more tack at the toe and another at the heel complete the job.

Let it dry for a day and find then that the leather is as hard as before and the "raise" has become a natural and permanent part of the insole.

The tacks are removed and as the outline of the foot was drawn in indelible pencil we find its imprint on the reverse side of the leather.

Take a sharp knife and cut the shape according to this penciled line, taking care to cut about an inch posterior to the heel mark, for in fitting the support we can always cut off more but never add. Anteriorly to the metatarsal "raise" we cut the insole straight across, beveling the edge.

The piece of felt is now removed from the paper, glued to the concave side of the "raise" on the insole and the appliance is ready.

The great advantage that I see in making such a support lies in its correct fitting, its light weight, and in the fact that the "raise" does not shift when the patient puts his shoes on. This shifting always happens where some material is simply pasted on top of an insole.

177 Joralemon St., Brooklyn.

#### Euthanasia

(Concluded from page 217)

cutors of the estate. He had the unique experience of having the dead man come in person to pay the indebtedness.

At any moment there may be announced some new life saving device. Thus, for 2400 years, dating from the days of the so-called father of medicine, Hippocrates, it was believed a certain valvular disease of the heart was incurable. No medicine, even at the present time, can possibly cure the trouble; but, only a few months ago, American surgeons published a detailed report of a case in which they had succeeded, by performing a wonderful operation in the interior of the heart, in bringing back to complete health a girl who had been confined to bed for years, suffering from symptoms which could not be relieved by any known medical treatment. The patient is now, more than a year after the operation, in perfect health, has gained over nine pounds in weight, and is leading an active outdoor life.

It is safe to predict that the medical profession will never lend encouragement to the movement to amend the Ten Commandments, by the elimination of the one which reads: "Thou shalt not kill."

488 Irving Ave.

## Diagnosis and Treatment

### Presymptoms

Symptoms which, with operations and birth and girth control, have been monopolizing the conversation of dowagers on summer hotel verandas, are about to lose caste in favor of presymptoms.

Presymptoms have to do with the lack of those mysterious substances, vitamins A, B and C; the obscurities of the endocrine glands like a woman's failure to reduce even after eliminating breakfasts, potatoes and bread; the whereabouts of intestinal statis or constipation; the hidden causes of vagrant lesser pains and aches; the reasons for a man's wind getting shorter; the whys of the tired feeling, and the multitudinous activations that cause people to find themselves unaccountably depressed, confused, or in some way sorry for themselves.

The presymptom, then, is the precursor of the well known symptom or complaint that a person waits for before consulting a physician, according to Dr. William G. Exton, director of the Longevity Service of The Prudential Insurance Company, and who points out that the true value of the newer preventive medicine, exemplified by periodic health examinations, must be focused on the presymptom. The presymptom, he says, points the way to outflank oncoming disease and its consideration affords the family doctor the only opportunity to help a person enfilade, dodge, or repel disease.

"This is not only possible by the recognition of presymptoms but actually happens frequently as in the focal infection cases where danger is removed by doctoring a bad although painless tooth," added Dr. Exton. "A symptom usually means that disease is already established and that changes have taken place in one's tissues in a more or less complete way.

"The presymptom is therefore an advance notice of the symptom which is on its way, and the manifestation of a tendency which disturbs function and which, if left to itself, will go on more or less insidiously until it ends up in some kind of organic change that will cause distress enough to be recognized as the symptom of actual disease. Therefore, "Heed the presymptom," warns Dr. Exton, paraphrasing Dr. George M. Gould, whose paper read before the American Medical Association twenty-five years ago, laid the foundation for present health promotion services.

"For every symptom," he said, "there are a dozen presymptoms, the discovery of which would enable us to give the family doctors and general practitioners with whom we work information designed to forestall disease and thus prolong life. The unassuming presymptoms lie in the borderline field between health and disease—the field which practitioners will more and more cover in the interest of earlier and earlier diagnosis." Dr. Exton, whose service last year handled approximately 30,000 cases and which has now been expanded to serve more than two and a half million Prudential policyholders throughout the United States and Canada, says that the presymptom often encountered is constipation; next in order of frequency come susceptibility to colds and the tired feeling; then the results of disturbed nutrition like the lack of fat-soluble vitamin A, and with less frequency these are followed by evidences like backache, dizziness, and the headaches and lassitude of different intoxications.

"Constipation," remarked Dr. Exton, "might almost be called a national affliction. It is often a symptom, but frequently it appears as a presymptom and a warning of developing conditions which will later mean more serious disorders. Our work also reveals the extended effects of unfavorable habits; for example, obesity resulting from lack of exercise and overeating; vertigo resulting from auto intoxication produced by faulty eating and digestion, and allergic conditions like asthma, due to individual sensitivities, also the protean and repeated slight discomforts that many people experience which go with hormone imbalance, or what are now popularly called gland troubles.

Dr. Exton specializes in laboratory diagnosis and maintains that the laboratory is needed to make the earlier diagnosis possible which leads to checking such tendencies as Bright's, heart and other degenerative diseases as well as diabetes and toxic conditions. It is his contention, however, that no health-promotion service can be effective without the sympathetic cooperation of practitioners and family physicians.

"Life," said Dr. Exton, "can not be prolonged merely by periodical health examinations no matter how thoroughly or perfectly the examinations may be made. The utmost results to be expected from such examinations are limited to the efficiency of the physician selected by the patient to treat him." The word "patient," he said, need not always mean the sick. Health-promotion services, he explained, are not for the sick, as they are in want of treatment by a physician; health services help people who regard themselves as well but who exhibit on close examination by a trained clinician those slight and obscure but real signs of trouble in the offing—the presymptoms.

"Heed the presymptom then," he said in conclusion, "give your doctor the chance to help you defend yourself against the attack of diseases which threaten all of us."

### Weak Foot

Postural deformities in many ways limit successful life. The attendant strains upon the physical structure may cause a variety of disturbances to the nervous mechanisms. The body is maintained in the erect position thru the reciprocal innervation of antagonistic muscle systems. Whatever interferes with their finer balance adjustments disturbs the general equilibrium of the nervous system.

Postural habits are developed during early life but their permanence depends upon a large variety of circumstances and conditions, many of which are frequently disregarded. The effects of rickets, tuberculosis, congenital deformities, and the results of infections are readily recognized. There are, however, many influences which emanate from social and economic factors not determinable by objective examination.

In *Public Health Reports*, March 27, 1925, appears a discussion of foot defectiveness of school children. The basis of the article is a report by M. J. Lewi upon high school pupils in New York City. The examiner found 73 per cent of the boys and 78 per cent of the girls to have "weak foot," that is, a condition of the foot so that it flattens out under normal weight bearing. Weak foot is a stage immediately preceding acquired flat foot. In an earlier study of public school children, the same investigator reported 6 per cent of the boys and 13 per cent of the girls as having flat foot. The high school group examined revealed 2.36 per cent of the boys and .42 per cent of the girls with actual flat foot. It is difficult to compare the two groups inasmuch as the high school population consists of a far more selected group of children than are in the elementary schools. Both sets of figures, however, are of importance as indicating the early evidence of postural defects which may interfere with vocational activity.

Lee, in his study of 746 Harvard freshmen, showed that 80 per cent of them habitually assumed unsatisfactory standing positions and for 25 per cent of them the posture was decidedly contrary to the standards essential for most useful use of the body. Here one is dealing with an even finer type of selection, and yet it is obvious that deficiencies in posture have not been overcome under the ordinary systems of exercise and hygiene. It is reasonable to believe that the development of most of these forms of foot defects could have been prevented by more adequate attention to postural needs during childhood.

Faulty posture and the deformities resulting therefrom arise from failure to maintain the body in the normal upright position. A considerable measure of the muscular defectiveness is determined by reflex tonic muscular activity. All factors that reduce muscular tone and interfere with muscular balance in any part of the body, serve as a negative factor with reference to posture. Hence, flat foot may be caused or accompanied by deficient postural activity, which, in turn, appears to be modified by mental fatigue, inertia temperament, anemia, and the general state of health. It is evident that inherent tendencies toward the breaking down of the arch of the foot can be overcome only by relieving the supporting muscles from unnatural strains. It is necessary to maintain or re-establish the postural reflex and this can be attained thru correcting all physical defects that lower vitality. The improvement of physical and mental health has generic values. Merely undertaking gymnastic exercises is insufficient. Muscle deficiency in tone is resistant to the very exercises designed to strengthen them. The elements underlying the muscular weaknesses must be ascertained and corrected before corrective exercise can be expected to be most efficient.

Children and adolescents who evidence weak feet require care more than those afflicted with flat foot, if they are to escape falling into the latter group. Under these circumstances it is important that routine examinations of children and adults should include examinations of the feet for existent or potential deformities. Frequently the point of origin of scoliosis, lordosis, and kyphosis is to be found in defects of the feet, which throw out of alignment the skeletal system and induce unnatural muscular strains with interference with muscular balance. The combination of weak feet, knock knees, and scoliosis is evidence of their interrelation or, possibly, their dependence upon a single underlying cause.

The adjustments of footwear during the summer vacation period, the variation in styles of shoes, the shift from high heels to low heels, from elastic rubber sneakers to rigid calf soles, from slippers to boots, indicate the variety of pressures, influences and strains to which the postural system is subjected. Muscular fatigue is frequently due less to inherent muscular effort than to the abnormal modes of muscular balance that

are demanded during the course of a day's activity. Exercise obviously is of importance in maintaining muscular tonus. Hiking, therefore, is more beneficial than motoring. Normal play by well-nourished children is probably more protective of posture than systematic exercise for the undernourished.

One again appreciates the essential values of bodily harmony and the dependence of each portion of the body upon the health of the entire body. Weak feet and flat feet are not isolated phenomena, but must be considered in relation to the totality of life and the circumstances attendant upon living. At the beginning of the summer season, therefore, when foot strains are increased by reason of vacations, it is desirable to give a large measure of attention to the state of the feet and to interpret them in terms of the results of general physical examinations. Foot disabilities are more than a matter of shoes. Postural efficiency is necessary for civil life as well as for military service.—(Am. Med., May, 1925.)

### Use of Sodium Thiosulphate in Metallic Poisonings

George F. Roberts, of Salt Lake City, and Andrew J. Hosmer, of Midvale, Utah, believe that sodium thiosulphate is the logical drug of choice in the treatment of acute and chronic poisonings by a group of the heavy metals.

It materially shortens the length of disability caused by these poisons.

Moist applications of a 1 to 2 per cent solution of sodium thiosulphate are beneficial in the treatment of burns and dermatitis caused by arsenic and mercury.

The work on which this report is based, covering the treatment with sodium thiosulphate of acute and chronic poisonings by metals of this group, has been carried out at the Salt Lake County Hospital, St. Mark's Hospital, and the plant of the United States Smelting and Refining Company at Midvale, Utah.

They report those of two typical ones of arsphenamin dermatitis.

Case No. 1—Mr. J. H., age 53, with a chronic syphilitic osteomyelitis, which had been operated upon several times, with a resultant suppurating fistulae. A macular rash after arsenical treatment upon the face and hands. The next day the entire body was red, hands, legs, and face were swollen. There was a serous exudate involving principally his face and arms. He was immediately given sodium thiosulphate .500 intravenously in 20 cc. of water. The following day he was given .900. With the second dose his symptoms began to disappear. By the time he had received five doses his symptoms were gone, and by the twelfth day he had completely recovered.

Case No. 2—Mr. W. W., age 52, syphilitic gummas of the arm and leg. Three days following the last injection of arsphenamin the skin of the face and neck became red, dry and itching. Two days later the eruption spread to cover his body. The skin was red, swollen, and weeping. The first day he was given .3 gm. of sodium thiosulphate intravenously, the second day .3 gm., the third day .45 gm. By this time the edema had practically disappeared and the redness was diminishing. He was given subsequent doses of .6, .9, 1.2, and 1.8 gms. By the fifteenth day his symptoms had all disappeared and his skin was normal.

The author's experience with acute and chronic lead poisoning was more phenomenal than that of arsenic; in fact, it has now become the routine that all men applying for treatment and complaining chiefly of vague abdominal pains, even before the blood shows any change, are immediately given intravenous doses of sodium thiosulphate with the result that, after two or three doses, they are completely free from pain. As with arsenic, so with lead, these cases have been too numerous to give a complete tabulation here, but two cases, one from the smelter and one from a city plumber, will probably suffice as typical group pictures.

Case No. 1—J. S., age 40, away from duty for one week on account of abdominal pain. His family physician had used all of the better known remedies for lead poisoning, with practically no effect. At the beginning of the second week he was given 1.2, 1.6 and 1.8 gms. of sodium thiosulphate intravenously in one day. The second day the dosage was repeated. By the third day his pain had all disappeared. The third day he was given two doses of 1.6 and 1.8 gms. each. The fifth day he returned to work a well man.

Case No. 2—R. J., plumber age 32. For two months incapacitated on account of abdominal pain. He was in such pain that his thighs were almost completely flexed on his abdomen. His bowels had not moved for four days. He was given one-half grain morphin, 2 ounces of magnesium sulphate, and three doses of 1.6 gms. each of sodium thiosulphate the first twenty-four hours. The next day his pain was greatly relieved. The sodium thiosulphate was again repeated. The second day his pain had practically disappeared. The third, fourth, and fifth days he was given two doses each day of 1.2 gms. By the sixth day his pain had all gone, and he left the hospital to return to his work.

The cases of mercurial poisonings warrant the recommendation that this chemical be kept on hand in all emergency hospitals where a dose could be immediately given in any case of mercurial poisoning.

Case No. 1—Mrs. J., American, age 23, took by mouth thirty 1-grain tablets of bichloride of mercury. She was found about four hours later. She stated that she had vomited about one hour after taking the tablets. At the hospital she was passing blood from the bowels and vomiting blood and bile. The urine was scanty and smoky. The abdomen was distended and tender. By March 1 the tongue was so swollen that it practically filled the mouth. The teeth were loose and there was marked necrosis of the gums. March 7 she aborted a six weeks' partially macerated foetus. March 8, patient in partial coma. Refused all food or liquid by mouth. March 10 .3 gm. sodium thiosulphate was given intravenously. March 11, 45 gms. March 12, 6 gms. March 13, 9 gms. March 15, 1 gm. March 17, 1.2 gms. March 19, 1.8 gms. By March 11, the day following the first dose, the patient was some brighter, the tongue not as badly swollen, and she asked for food. March 15 appetite good. Tongue decreasing in size. Teeth very loose, but necrosis of gums is improving. March 20, tongue practically normal. Gums greatly improved. Loose teeth and some necrotic bone removed. The mouth is a little tender, but otherwise she is practically normal.

Case No. 2—J. B., American, age 24, took two tablets of bichloride of mercury,  $7\frac{1}{2}$  grain, in mistake for other medicine. He discovered his mistake in about one hour. A stomach lavage was immediately given and an intravenous dose of 1.6 gms. of sodium thiosulphate. This dose was repeated in four hours. The following day the urine gave a test for mercury. He was given eight doses averaging about 1.5 gms. of sodium thiosulphate. He made an uneventful recovery with no symptoms of mercurial poisoning, except a looseness of the bowels and some tenesmus.

Some of the earliest work on the use of sodium thiosulphate in metallic poisonings done by McBride and Dennie, they advocated the following dosage: .3 gm. first day; .45 gm. second day; .6 gm. third day; .9 gm. fourth day; 1.2 gm. sixth day and 1.8 gm. the eighth day. The authors found that these dosages can be greatly increased with a resultant more rapid modification of the symptoms and with no unfavorable manifestations or discomfort to the patient. They use as an original dose, 1 to 1.2 gms. and as high as 1.8 gms., and have repeated this dose from two to three times daily. In all cases treated they gave sodium thiosulphate by mouth daily. The first day the patients were given 15 gms. in 500 cc. of water, and daily thereafter 5 gms. in the same amount of water, distributed as small drinks throughout the day.—(Cal. & West. Med., July, 1925.)

#### Diet in Rheumatism

Adam H. Wright of Toronto lays down this dietary:

BREAKFAST 7 TO 8 O'CLOCK

Water; one glass of diluted milk; cereal, wheat, oats, corn or barley (three to four ounces or half a small helping) and milk, or bread or toast and butter with cooked fruit or jam, a small cup of coffee or a half cup of orange juice, or half grape fruit. As at all meals give patient water first, as much as he cares to drink, then the milk. If he prefers not to drink the full glass of milk, let him take only as much as he likes. If he drinks the full glass, and would like another at the close of the meal, give it to him. But never urge him to take at any meal more than he wishes, whether it be an ounce, a gill or a pint. We also think no milk should be given between meals. The stomach gets no real rest—not even partial relaxation—when milk is taken every two hours.

LUNCHEON 11 TO 12 O'CLOCK

Water; glass diluted milk, vegetable soup, four ounces, or meat broth, four ounces, or meat jelly, one teaspoonful, half a small helping of spinach or two stalks of asparagus, or milk toast, or half artichoke, or carrot or turnip, or parsnip or baked apple or stewed rhubarb or soft boiled or poached egg (half to begin with.)

DINNER 4 TO 5 O'CLOCK

Water; glass diluted milk or buttermilk, or bread and milk (six ounces milk and half slice stale bread); meat broth three to four ounces, or vegetable soup three to four ounces, or butcher's meat, or chicken, or fish; beets or squash, or cooked tomatoes; boiled rice and milk tapioca or bread pudding, with milk and a little sugar if desired.

Give the soup or broth at one of these meals (luncheon and dinner) and the meat or fish at the other.

SUPPER OR FOURTH MEAL 7 TO 8 O'CLOCK

Water; milk or bread and butter, or corn cake, or oat cake, or graham gem, or zwieback, or wheat rusk or abnehthy cookie; maple syrup, or preserved or cooked fruit, or honey.

Four meals in the day are recommended only in exceptional cases and for limited periods, the fourth to be discontinued as soon as possible.

This dietary may be to some extent misleading partly because it is intended to cover all stages of rheumatism from acute to chronic. To prevent misunderstanding, the following is recommended for the first week of acute inflammatory rheumatism.

#### FIRST WEEK

First meal—Water; diluted milk, barley water, or rice water, or oatmeal water.

Second meal—Water, bread and milk, or bread and butter, or meat broth.

Third meal—Water, diluted milk or buttermilk, tapioca or sago or bread pudding, or milk toast.

Give water at the commencement of every meal, and at any other time during the twenty-four hours up to two or three quarts.

It is hoped the water at the meals will quench the thirst, while the milk and cereal water will satisfy the hunger.

After the water give a full glass of the diluted milk or as much of it as he wants. At the close of the meal give a second glass if it is desired. Aim at giving up to one to two pints a day, but never in any case more than he desires.

During the first and second weeks Nature indicates through increased thirst that the body needs more than the usual amount of water, and through decreased hunger that the digestive system can utilize comparatively little food for the time being, whether liquid, semisolid or solid.—(N. Y. Med Jour., May 20, 1925.)

#### Bladder Diverticula

G. A. Geist of St. Paul reports two cases:

CASE 1.—Mr. J. H. Age 45. July 15, 1924.

Present Complaint.—Bleeding from urethra, pain over bladder, frequency, burning on urination, dribbling, bloody urine.

Present Illness.—First began to bleed from urethra about two years ago. This came on very suddenly with pain in the bladder region. No pain in the back or down the legs. Second hemorrhage followed about eleven months after the first. Present hemorrhage (third) began July 14, 1924, and he was admitted to the hospital at once.

Past Illness.—Varicose veins of right leg removed two years ago. Has been under the care of a physician for two years or more and during this time was being treated for a chronic cystitis by catheterization and bladder irrigation. Never well during this time but seemed to improve a little now and then with frequent setbacks, accompanied by increased frequency, dribbling, and burning urination with urine usually cloudy.

Examination.—Patient was seen in hospital in consultation with Dr. Max Hoffman. Urine; acid, sp. gr., 1023; albumin, 4 plus; r. b. c., 4 plus; leucocytes, plus; pus, plus; sugar, negative. Blood; hemoglobin, 78 per cent; r. b. c., 3,840,000; coagulation time, five minutes. Temperature and pulse normal. B. P., 112/90. Patient was found to be in considerable pain, restless, anemic in appearance, and skin very clammy. X-ray of the bladder advised. X-ray of bladder revealed two large walnut-sized stones, and about twenty-five smaller ones, apparently in the prostate area. Because of considerable amount of bleeding, cystoscopic examination was not thought advisable.

Operation.—Suprapubic cystotomy. The bladder was first irrigated with boric acid, but no attempt was made to wash out the many clots present. The bladder was distended with boric acid solution and incision made in mid-line. The bladder wall obtained and anchored with linen sutures held by forceps. Upon entering, the bladder was found to contain numerous blood clots, all of recent origin. Two large stones were found free in the bladder. The x-ray revealed other stones, but they were not found in the bladder proper. Upon further exploration, with assistant's finger in the rectum, we found a sac or pocket to the right lateral side of the prostate. The assistant was able to feel other stones with the finger in the rectum. An incision was made broadening the opening found in the bladder to the diverticulum and the stones removed. On account of the poor condition of the patient and the location of the diverticulum it was thought not advisable to attempt to remove the sac. The neck of the sac was cauterized with hot irons, the finger in the rectum acting as a guide. A suprapubic drain was placed in the bladder and the bladder walls were sewed with chromic No. 9 and three silk worms, equine being used for skin. Uneventful recovery followed until August 7, 1924, when the patient developed a thrombosis of some varicose veins of the left leg. They were removed at a later operation.

Progress.—Patient gained rapidly and has been feeling well ever since.

CASE 2.—Mr. H. N. Age 75. April 1923.

Present Complaint.—Considerable trouble in passing urine for the past two years, frequency of urination, and all signs of retention.

Present Illness.—He had had repeated bladder irrigations for cystitis a year previously. Following these irrigations he improved considerably and gained in weight. For about six months he irrigated himself at home twice a week. In March, 1923, he began to have considerable urinary trouble. On August 15,